PB82-178518

Final Environmental Impact Statement for Proposed Issuance of a New Source National Pollutant Discharge Elimination System Permit to MS Chemical Corp. Phosphate Mine, Hardee Co., FL

(U.S.) Environmental Protection Agency
Atlanta, GA

Jan 82

U.S. Department of Commerce
National Technical Information Service
NTIS

PB82-178518

United States
Environmental Protection
Agency

Region 4
345 Courtland Street, NE
Atlanta, GA 30365

EPA 904/9-81-090
January 1982

EPA

Environmental Impact Statement

FINAL

Mississippi Chemical Corporation
Hardee County Phosphate Mine
Hardee County, Florida

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16. Abstracts

Mississippi Chemical Corporation has proposed to operate an open pit phosphate mine and beneficiation plant and rock dryer on 14850 acres in west central Hardee County, Florida. Mining and processing will produce 3 million tons of phosphate rock per year for 32 years. The EIS examines project alternatives, impacts, and mitigative measures related to air, groundwater, surface water, radiation, ecological, socioeconomic, and cultural systems.

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plant and rock dryer

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17c. COSATI Field/Group

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

February 17, 1982

All Citizens, Public Groups, and Governmental Agencies

The Final Environmental Impact Statement (EIS) for Mississippi Chemical Corporation's proposed Hardee County Phosphate Mine located near the Town of Ona in Hardee County, Florida, will be made available to the EPA Office of Federal Activities and to the public on or about February 19, 1982. This document has been prepared pursuant to Section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA) and the applicable Council on Environmental Quality and EPA regulations (40 CFR 1500-1508 and 40 CFR 6, respectively). A copy of the proposed National Pollutant Discharge Elimination System (NPDES) Permit, NPDES Number FL 0037745, is included in the Final EIS.

The Draft EIS on the proposed project was made available for public review and comment on September 11, 1981. A public hearing on the proposed project was conducted on October 21, 1981, in Wauchula, Florida.

Copies of the Final EIS are available for review at the following locations:

Bartow Public Library	Bartow
DeSoto County Public Library	Arcadia
Tampa-Hillsborough County Public Library 900 North Ashley	Tampa
Ausley Memorial Library	Wauchula
Manatee County Library System 417 12th Street, West	Bradenton
Sarasota Public Library 701 Plaza de Santo Domingo	Sarasota
Lakeland Public Library	Lakeland

Comments on the Final EIS may be submitted in writing to:

John E. Hagan III, P.E.
Acting Chief, Environmental Assessment Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Any comments received by March 29, 1982, will be considered in EPA's Record of Decision on the project.

Please bring the foregoing to the attention of persons who you know will be interested in this matter.

i.b

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

EPA 904/9-81-090
NPDES Application Number:
FL 0037745

Final
Environmental Impact Statement

for
Proposed Issuance of a New Source National
Pollutant Discharge Elimination System Permit

to
Mississippi Chemical Corporation
Phosphate Mine
Hardee County, Florida

prepared by:
U.S. Environmental Protection Agency
Region IV, Atlanta, Georgia 30365

cooperating agency:
U.S. Army Corps of Engineers
Jacksonville District
Jacksonville, Florida 32201

Mississippi Chemical Corporation has proposed to operate an open pit phosphate mine and beneficiation plant and rock dryer on 14850 acres in west central Hardee County, Florida. Mining and processing will produce 3 million tons of phosphate rock per year for 32 years. The EIS examines project alternatives, impacts, and mitigative measures related to air, groundwater, surface water, radiation, ecological, socioeconomic, and cultural systems.

Comments will be received until March 29, 1982

Comments or inquiries should be directed to:

Dario J. Dal Santo, EIS Project Officer
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365
(404) 881-7458

approved by:

Jan. 29, 1982

Charles R. Jeter
Regional Administrator

Date

i.c

EXECUTIVE SUMMARY FOR
ENVIRONMENTAL IMPACT STATEMENT

HARDEE COUNTY PHOSPHATE MINE
MISSISSIPPI CHEMICAL CORPORATION

( ) DRAFT
(X) FINAL

U.S. Environmental Protection Agency, Region IV
345 Courtland Street NE
Atlanta, Georgia 30365

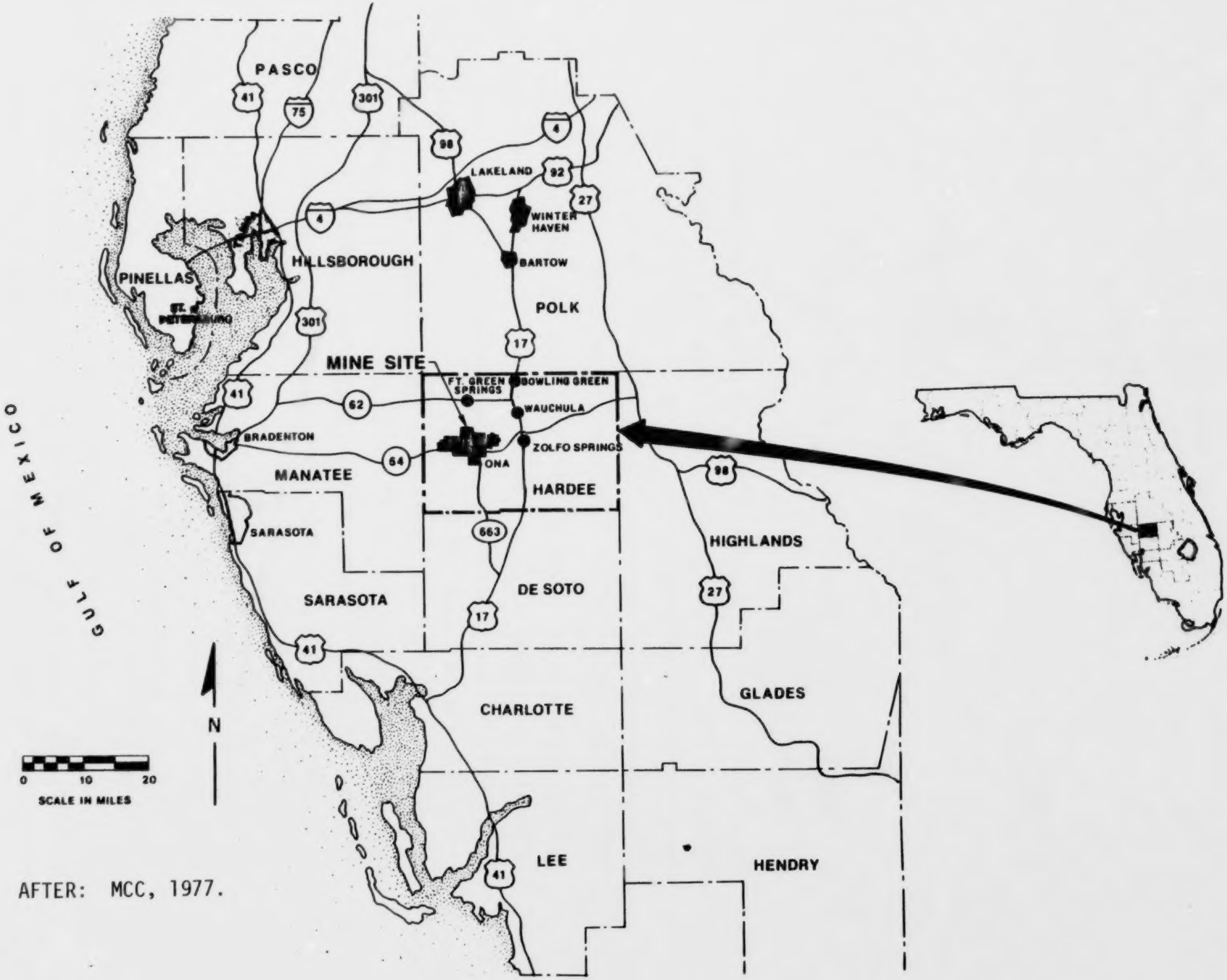
1. Type of Action: Administrative (X) Legislative ( )

2. Description of Action

Mississippi Chemical Corporation (MCC) is proposing to construct and operate a phosphate mine, beneficiation plant, and rock drying facility in west-central Hardee County, Florida (Figure 1). The USEPA Region IV Administrator has declared the proposed phosphate mine to be a new source as defined in Section 306 of the Federal Clean Water Act.

In compliance with its responsibility under the National Environmental Policy Act (NEPA) of 1969, the USEPA Region IV Administrator has determined that the issuance of a new source National Pollutant Discharge Elimination System (NPDES) permit for the proposed mining and beneficiation facility would constitute a major federal action significantly affecting the quality of the human environment. Therefore, this Environmental Impact Statement has been prepared in accordance with the Council on Environmental Quality regulations for implementing NEPA (40 CFR 1500-1508) and EPA regulations at 40 CFR Part 6.

The proposed facility, the Hardee County Mine, encompasses 14,850 acres of which approximately 9,000 acres are deemed mineable under present economic, environmental, and technological conditions. The mining operation is planned to produce 3 million tons of phosphate ore annually for a period of 31.5 years (Figure 2). MCC, a farmer-owned fertilizer producing cooperative, presently operates a chemical complex in Pascagoula, Mississippi, which requires approximately 1 million tons of


GULF OF MEXICO
PASCO
PINELLAS
ST. PETERSBURG
HILLSBOROUGH
POLK
LAKELAND
WINTER HAVEN
BARTOW
MINE SITE
FT. GREEN SPRINGS
BOWLING GREEN
WAUCHULA
ZOLFO SPRINGS
ONA
HARDEE
BRADENTON
MANATEE
SARASOTA
SARASOTA
DE SOTO
HIGHLANDS
CHARLOTTE
GLADES
LEE
HENDRY
41
75
301
98
4
92
27
301
4
41
62
64
98
663
27
17
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41
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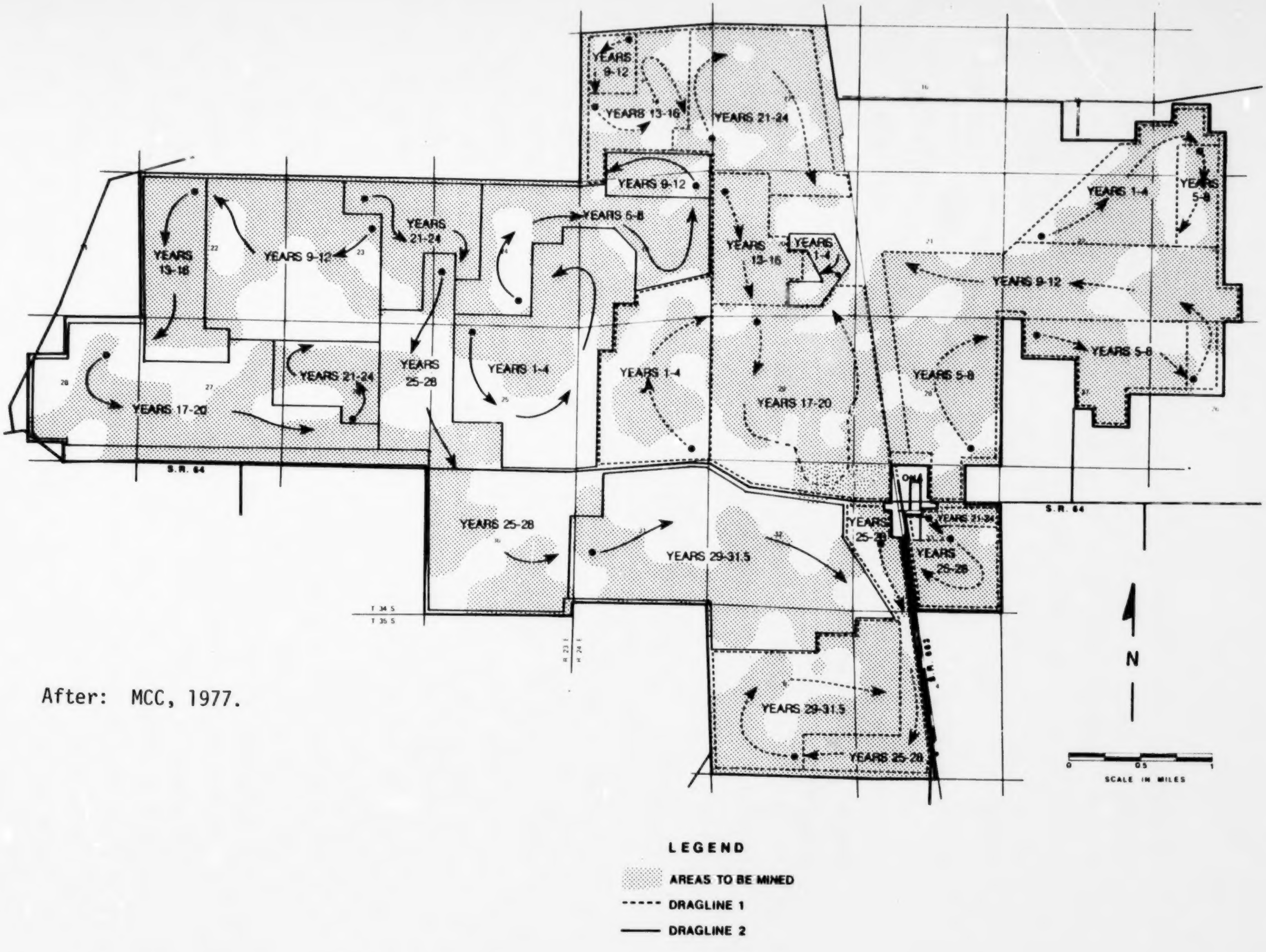
0
10
20
SCALE IN MILES

AFTER: MCC, 1977.

Figure 1. MCC Mine Site Location.


YEARS 9-12
YEARS 13-16
YEARS 21-24
YEARS 9-12
YEARS 5-8
YEARS 13-16
YEARS 1-4
YEARS 1-4
YEARS 5-8
YEARS 9-12
YEARS 13-16
YEARS 9-12
YEARS 21-24
YEARS 1-4
YEARS 5-8
YEARS 17-20
YEARS 21-24
YEARS 25-28
YEARS 1-4
YEARS 17-20
YEARS 5-8
S.R. 64
YEARS 25-28
YEARS 29-31.5
YEARS 25-28
YEARS 21-24
YEARS 25-28
S.R. 64
T 34 S
T 35 S
R 23 E
R 24 E
YEARS 29-31.5
YEARS 25-28
N
0
0.5
1
SCALE IN MILES
LEGEND
AREAS TO BE MINED
DRAGLINE 1
DRAGLINE 2

After: MCC, 1977.

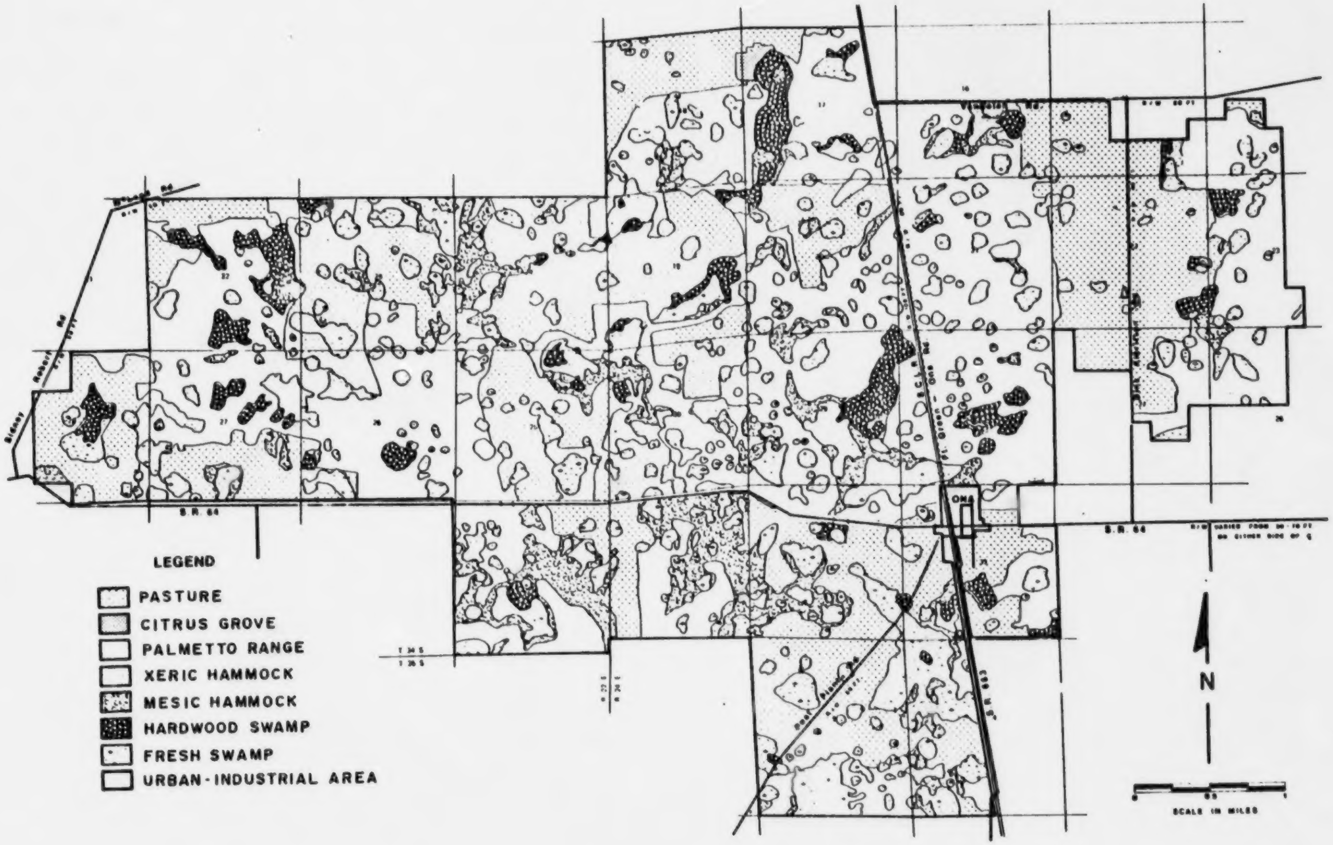
Figure 2. Mining Unit Sequence.

dry phosphate rock per year for the production of fertilizers. To ensure its ability to obtain long-term supplies of phosphate ore for its fertilizer production, MCC proposes mining the tract of land under consideration. The other 2 million tons of annual mine production would be sold to generate sufficient revenue to make the mine an economically viable project.

Principal components of the proposed facilities include two draglines with 45 cubic yard buckets; hydraulic ore transportation via pipelines from the mine to a central washer for ore disaggregation and pebble recovery; a feed preparation and flotation plant for extraction of finer phosphates; a drying facility to reduce moisture in the phosphate rock from 13 percent to 2 percent; and shipment via rail, principally to Tampa from which the rock would be barged to Pascagoula and other customer-receiving ports.

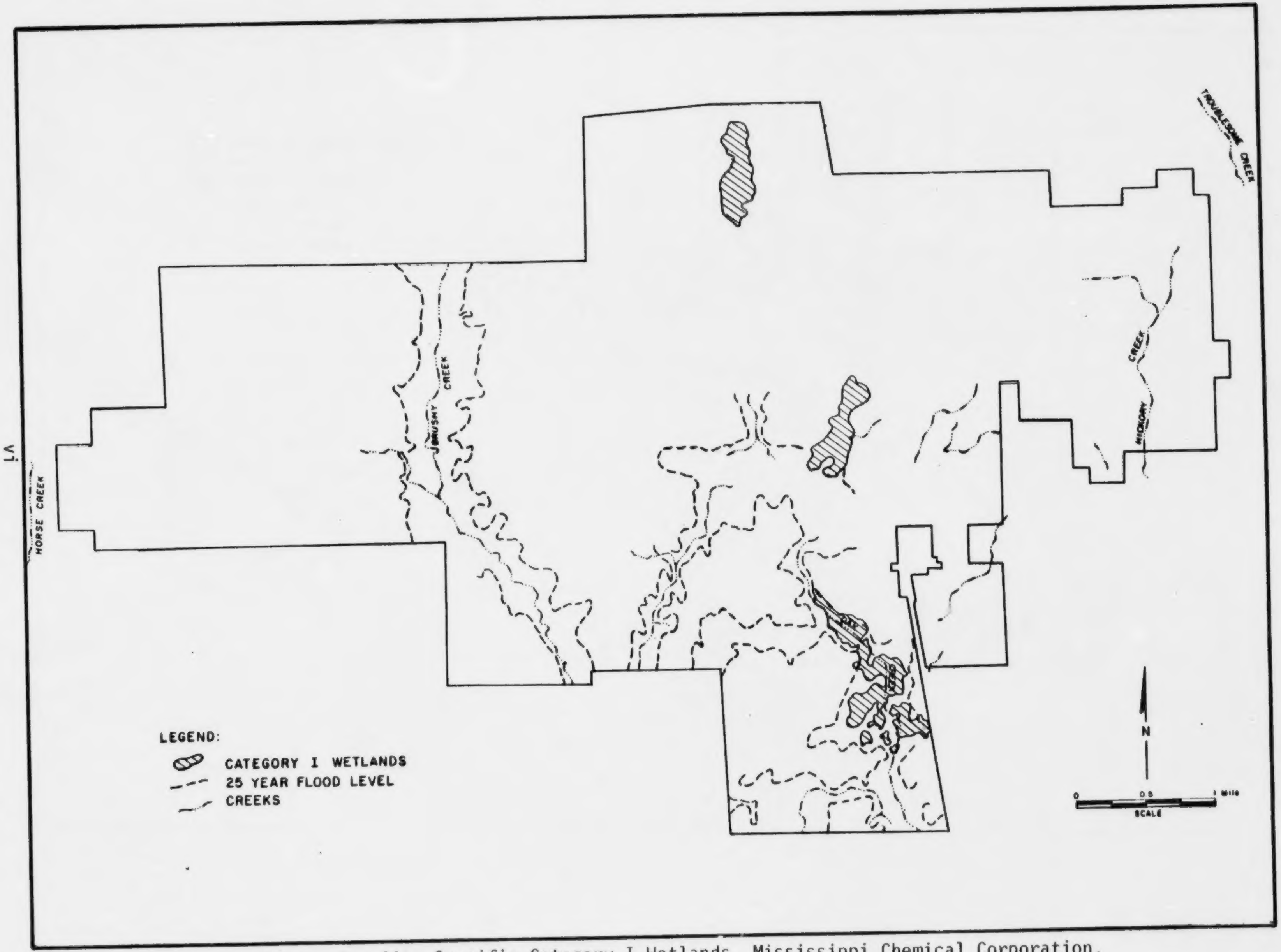
The mining plan proposed by MCC calls for mining approximately 9,000 acres in Hardee County. Existing land use is shown on Figure 3. Three wetlands on the property, totalling 120 acres of swamp and 113 acres of marsh, would be preserved (Figure 4). These wetlands would not be affected by mining operations unless, and until, the USEPA determines that MCC has proven the feasibility of creating wetlands of essentially the same, or equivalent, ecological functions. An additional 440 acres of wetlands (including 35 acres of swamp) on the site would be unaffected by the proposed action. The mining plan would include disturbance of approximately 4 miles of 5 cfs streambeds.

The proposed water management plan would divide the needed supply between surface and ground water resources and would minimize mining process consumption. The Consumptive Use Permit issued by the Southwest Florida Water Management District (SWFWMD) allows ground water withdrawal at a rate of 17.4 million gallons per day (mgd) for the first 3 years. During this time, a 200-acre surface water reservoir would be constructed to provide storage for surface water diverted from Brushy Creek. Approximately 5.1 mgd (annual average) would be taken from the storage reservoir, thereby reducing ground water use to 12.3


LEGEND
PASTURE
CITRUS GROVE
PALMETTO RANGE
XERIC HAMMOCK
MESIC HAMMOCK
HARDWOOD SWAMP
FRESH SWAMP
URBAN-INDUSTRIAL AREA
S.R. 64
OMA
N
0
0.5
1
SCALE IN MILES

SOURCE: MCC, 1977

Figure 3. Vegetation Map of MCC Property.


TROUBLESOME CREEK
HICKORY CREEK
BRUSHY CREEK
HORSE CREEK
CREEK
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1 Mile
SCALE
LEGEND:
CATEGORY I WETLANDS
25 YEAR FLOOD LEVEL
CREEKS

Figure 4. Site Specific Category I Wetlands, Mississippi Chemical Corporation.

mgd for the remainder of the project life. A schedule of minimum flows has been established by SWFWMD to assure that downstream uses of Brushy Creek would not be impaired.

The proposed waste disposal plan would be a modification of the conventional and sand/clay mix methods. A 4-foot thick sand/clay cap (approximate ratio of 8 parts sand to 1 part clay by weight) would be placed on approximately half of the clay disposal areas. This would result in creation of a minimal number of lakes and above-grade storage areas. Of the 10,722 acres to be used for waste disposal, less than 3,700 acres would be above-grade after final reclamation is complete. Areas not receiving a sand/clay cap would be partially capped with a mixture of sand tailings and overburden.

The proposed reclamation plan would be accomplished by the physical restructuring and refilling of disturbed sites (mine cuts and clay storage areas), followed by revegetation. The proposed methodology would return the site to land forms compatible with its rural, agricultural setting and would reclaim approximately 82 percent of the disturbed wetland acreage (Figure 5). The reclaimed site would consist of improved pasture, marsh and swamp environments, two lakes, and meandering streambeds providing surface drainage. The proposed plan aims to provide long-range water quality and biological diversity as well as aesthetic values in landform diversity, wildlife protection, recreational uses, and water resources. Wetland areas and streams, if successfully recreated as proposed, would be of generally better quality than those presently on the site.

3. Major Alternatives Considered

The Draft EIS identified and evaluated various alternatives available to accomplish the objectives of MCC's mining and beneficiation plans. The major alternatives are summarized in the following tabulation; each alternative, including "no action," is briefly described in the succeeding paragraphs.

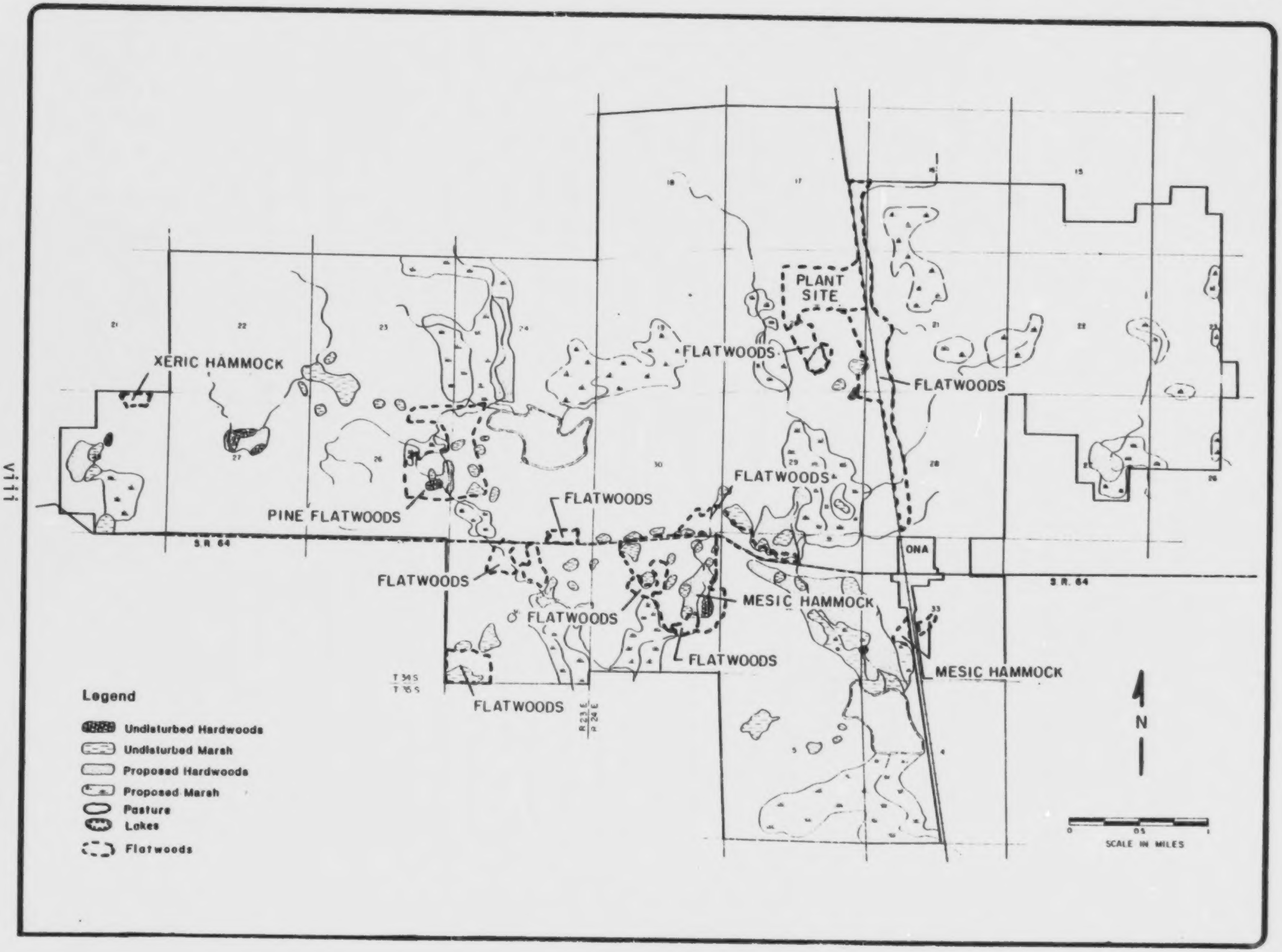
XERIC HAMMOCK
PINE FLATWOODS
FLATWOODS
PLANT SITE
FLATWOODS
FLATWOODS
FLATWOODS
FLATWOODS
FLATWOODS
FLATWOODS
FLATWOODS
MESIC HAMMOCK
MESIC HAMMOCK
ONA
S.R. 64
S.R. 64
T 34 S
T 35 S
R 23 E
R 24 E
N
0
0.5
1
SCALE IN MILES
Legend
Undisturbed Hardwoods
Undisturbed Marsh
Proposed Hardwoods
Proposed Marsh
Pasture
Lakes
Flatwoods

Figure 5. Expected Final Land Use on MCC Site.

Component	Objective	Alternatives Considered
Beneficiation Plant	Should be centrally located with minimum loss of phosphate resources.	Ore centroid, mining and waste centroid, Vandolah site.*
Mining Method	Remove overburden and deliver matrix to a transport system.	Dragline,* dredge, and bucket wheel.
Matrix Transport	Transport matrix from the mine to the beneficiation plant.	Slurry pipeline,* conveyor belt, truck.
Matrix Processing	Process the matrix to separate the phosphate rock product from the waste sand and clay.	Wet process beneficiation,* dry separation, direct acidulation.
Process Water Source	Provide a continuous source of freshwater (about 17.4 mgd) for use in matrix processing and as make-up for losses to the recirculating system.	Surface water, ground water, combination of surface and ground water.*
Effluent Disposal	Provide a means to reduce the volume of water in the recirculating system.	Surface water discharge,* ground water discharge.
Rock Drying	Reduce the water content of phosphate product from approximately 13 percent to 2 percent.	Dryer at Ona,* dryer at chemical plant(s), no rock dryer.
Waste Disposal and Reclamation	Dispose of the waste sand and clay generated by matrix processing in a manner which creates a desireable mix of land uses.	Conventional disposal with land and lakes creation, sand/clay mining, conventional disposal with sand/clay capping.*
Wetlands Preservation	Protect ecologically valuable wetlands from destruction by mining activities.	Preservation according to: Florida DER Development Order,* USEPA Areawide Categorization Plan, Site-Specific Application of USEPA Criteria, Systems Evaluation.
Product Transport	Transport phosphate rock rock from beneficiation plant to chemical plant.	Railroad/barge combination*; truck/barge combination; slurry pipeline/barge combination; railroad alone.

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*MCC's proposed action.

A. Beneficiation Plant Sites

Alternatives were evaluated primarily with regard to minimizing loss of phosphate resource, water pumping, ore and waste transportation, road and utility construction, and destruction of environmentally sensitive areas. No substantial difference in environmental impacts was noted among the sites considered.

Vandolah Location (Proposed)

The Vandolah site is an unmineable tract of land close to existing rail lines and roadways. It is also close to the ground water supply wells and the first waste disposal area and is less than one mile from the ore and waste transportation centroid. This site is a considerable distance from the surface water reservoir on Brushy Creek.

Centroid of Phosphate Ore Processing

This site minimizes the distance over which ore must be transported during the life of the project; it is also near a major highway. The site is a considerable distance from an existing railroad spur and the ground water supply wells. It is also located on mineable land.

Centroid of Mining and Waste Disposal

This site minimizes the transport distance for ore and waste materials, considered together, over the life of the project. Both railroad and highway spurs would have to be constructed to service the site, which is approximately one mile from the water supply wells.

B. Mining Methods

Mining methods were evaluated to assess ore recovery rates, energy use, water use and conservation, environmental resources, and safety. Draglines were identified as the most environmentally preferable and energy-efficient alternative.

Dragline (Proposed)

MCC proposes to use two large (45-cu yd) draglines to move overburden and mine matrix during the 31.5 years of operation. Draglines are the mining method conventionally practiced in the Florida phosphate industry.

Dredge

Mechanical dredges excavate bulk material by any of several methods, including the grapple dredge, dipper dredge, and bucket ladder dredge, all mounted on a barge. Hydraulic dredges continuously remove sediments from below the water line through the suction of a dredge pump, supplemented by mechanical excavators, when necessary. At least two large capacity dredges would be required to mine MCC's Hardee County tract; one to strip the overburden and the other to mine the matrix.

Bucket Wheel

Bucketwheel excavators are large continuous mining machines which excavate material with a series of buckets mounted on the periphery of a rotating wheel and deposit it onto a conveyor belt system. Overburden would be conveyed for disposal in previously mined areas, while matrix would be sent to the beneficiation plant.

C. Matrix Transport

Ore transportation alternatives were evaluated considering technical and operational feasibility, cost, energy use, water conservation, and impact to the environment. Conventional slurry pumping, conveyors, and trucks were considered. Conveyors would be the environmentally preferable alternative and would be energy-efficient. However, they are an unproven technology in the central Florida phosphate region and are capital and maintenance intensive. Slurry pumping is proven technology, extremely flexible, much less costly, and environmentally acceptable.

Slurry Transport (Proposed)

Slurry transport is used at most existing Florida phosphate mines. Matrix would be placed into a slurry pit and mixed with recycled water from high pressure nozzles, breaking down the clay and sand matrix into a slurry which would then be transported via pipeline to the beneficiation plant by a series of large pumps. Two independent slurry systems would be required.

Conveyor Transport

Conveyor transport would require that the matrix be placed onto a belt conveyor at the mine for transport to the beneficiation plant. As with the slurry system, two independent conveyor systems would be required.

Truck Transport

A dragline would load the trucks, which would then transport the matrix via haul roads to the beneficiation plant. At the plant, the matrix would be dumped and/or washed out of the trucks.

D. Ore Processing

Beneficiation process alternatives were evaluated for energy and water use efficiencies and for environmental impacts. Alternatives considered were conventional beneficiation, direct acidulation, and dry beneficiation.

Dry beneficiation and direct acidulation are energy-intensive and, although they would eliminate clay disposal areas, air emissions would increase substantially. Both are unproven technologies in the Central Florida phosphate district. Although clay disposal areas are created by conventional beneficiation practices, this is considered the preferred alternative.

Conventional Processing (Proposed)

Conventional processing involves the separation of phosphate rock from waste sand and clay using a series of wet-process operations. These consist of washing, feed preparation, and flotation. This is the only method of matrix processing in operation in the Florida phosphate industry today.

Dry Processing

The general concept of dry processing involves the production of usable phosphate product from the matrix directly following its excavation and drying. The method utilized would probably involve both air separation and electrostatic separation. There are no such plants in operation in the Florida phosphate industry today.

Direct Acidulation

This process basically consists of direct digestion of the matrix with sulfuric acid, recovering the product as phosphoric acid. The matrix must be dried and ground prior to acidulation. There are no beneficiation plants employing this process in the Florida phosphate industry.

E. Process Water Sources

Alternatives considered were use of ground water, use of surface water with rainfall catchment, and a combination of ground and surface water. Water sources were evaluated with consideration for conserving this regional resource while providing a sufficient quality and quantity of process water. A combination of using ground and surface water resources was identified as a workable and environmentally acceptable alternative. MCC has been issued a consumptive use permit from the Southwest Florida Water Management District for the proposed facility.

Ground Water

Water could be pumped from the lower unit of the Floridan aquifer. This water is of sufficient high quality for beneficiation process needs. Care must be taken to avoid excessive drawdowns which might interfere with other water users in the area.

Surface Water

Though surface water flows on the MCC site are variable and intermittent, catchment basins could be constructed to store water during high flow periods for drawdowns by MCC. However, surface water quality is not sufficient for the wet beneficiation process needs. Also, downstream water uses must be protected.

Combination of Surface and Ground Water (Proposed)

Approximately 17,410,000 mgd (annual average) of ground water can be pumped from the Floridan aquifer without adversely affecting nearby users. In order to further reduce the drawdown of ground water, approximately 5.1 mgd (annual average) of surface water would be taken from Brushy Creek Reservoir starting in year 4 of operation. This would be accomplished in conjunction with maintenance of a schedule of monthly average stream flow rates in Brushy Creek, below which no surface water may be diverted for mine use.

F. Wastewater Treatment

Effluent discharge alternatives considered included surface and ground water disposal. Ground water discharge through connector wells to the Floridan aquifer would not offer any significant environmental advantages and would be much more costly than surface discharge. Discharge of effluents to surface waters would occur primarily during the rainy season and would meet applicable federal and state effluent limitations.

Surface Water (Proposed)

Discharges from the clear water pond could be routed either to Oak Creek or to Hickory Creek. For much of the mine life, the discharge to Hickory Creek would be made near its exit from the site and thus would not provide the onsite natural filtering obtained with Oak Creek discharge.

Ground Water

Deep injection wells could be constructed to dispose of the liquid effluent. Because the discharge is strongly related to storm water runoff, the injection well capacity would have to be large and the costs very high.

G. Rock Drying

Rock drying alternatives were evaluated to select one which provided an environmental, energy, and cost-effective means of meeting project needs. Alternatives included were construction of a dryer at the mine site, shipment of wet rock with drying at a remote location, and shipment and processing of wet rock.

Rock drying at the mine site was determined to be environmentally acceptable. It would be the preferred alternative from a technological and economical perspective and, based on current and projected near-term demand for wet and dry phosphate rock, would also be the least energy intensive. Air emissions would meet federal and state air quality standards. Based on current data, rock drying at MCC's Pascagoula facility would probably require emission offsets from existing industries since the available air quality degradation increment in the area is extremely small. Additionally, a Class I area in proximity to the Pascagoula fertilizer plant might be adversely impacted by emissions from a rock dryer. Conversion from dry rock phosphate processing to wet rock processing at MCC's Pascagoula facility would require substantial financial commitments and energy use. An initial analysis has indicated that such conversion would probably create water quality problems at the complex.

Rock Dryer at Mine Site (Proposed)

A dryer would be constructed at the beneficiation plant with the capacity to dry all of the phosphate rock produced at the mine. This would provide MCC with the dry rock needed at the Pascagoula plant and the flexibility to market either wet or dry rock to other customers. MCC has agreed to actively seek wet rock customers so that the amount of rock drying can be reduced in the future.

Rock Dryer at Chemical Plant

Wet phosphate rock would be shipped directly from the beneficiation plant. MCC could install a rock dryer at Pascagoula; other customers which cannot process wet rock would have to do the same.

Process Wet Rock

MCC could ship wet rock to Pascagoula and alter their fertilizer process so that drying is not necessary. This would require a substantial capital investment and, for MCC, construction of a boiler to evaporate excess water to avoid a water balance problem at Pascagoula.

H. Waste Disposal and Reclamation

Evaluation of waste disposal and reclamation plans focused on methods to dispose of sand and clay wastes in a manner that would reduce above-grade storage and economically restore disturbed land to a productive state. Physical restoration and revegetation were considered in light of existing and planned environmental systems. Conventional, sand/clay mixing, and sand/clay cap methods of waste disposal were considered. Land and lakes reclamation and minimum above-grade storage were evaluated.

Conventional Disposal with Land and Lakes Reclamation

Conventional methods for disposing of the waste sand and clay removed from the phosphate matrix during processing involve their impoundment in separate areas surrounded by dikes as high as 60 feet above-grade. More than 9,500 acres would be covered with waste clays which would slowly consolidate to 20 percent solids. Sand tailings would be used for sand fill, land and lakes reclamation, and dike construction. Nearly 3,000 acres of lakes would be created by this method.

Sand/Clay Mixing

Sand/clay mixing involves the recombining of the waste sand and clay removed from the phosphate matrix during separate processing steps. The purpose of this method is to obtain a maximum rate of consolidation so that minimal areas of above-ground clay storage are necessary; this is desirable in order to return the land as much as possible to its original topography. On the MCC property, however, there is insufficient sand available to achieve the minimum ratio (2 parts sand to 1 part clay) necessary for good consolidation.

Conventional Disposal Plus Sand/Clay Capping (Proposed)

This method was devised specifically for the MCC site in order to maximize consolidation rates with the available sand. Sand and clay would be deposited initially in separate holding areas. Following initial settling, a sand/clay mix cap would be placed on some clay ponds and a tailings/overburden cap on others. Above-grade clay storage areas would be reduced to approximately 3,700 acres with only 300 or so acres of lakes. Reclamation of wetland and upland vegetation would proceed over the life of the mine (Figure 5).

I. Wetlands Preservation

Preservation alternatives include direct application of the USEPA Areawide EIS wetlands categories, site-specific application of those same categories, wetlands systems protection, and protection of wetlands as specified in the Hardee County Development Order. Alternatives were primarily evaluated for effects on ecological functions of the wetlands and on phosphate ore recovery.

Based upon the USEPA's evaluation of the project and onsite wetlands, a site-specific application of the USEPA Areawide EIS wetlands categorization criteria was identified as an environmentally acceptable alternative.

Wetlands Identified for Preservation in the Hardee County Development Order (Proposed)

This plan involves the preservation of three wetlands totaling 233 acres (120 acres of swamp forest and 113 acres of marsh). An experimental wetlands restoration project, consisting of six one-acre sites, would also be conducted to develop the expertise for replacing wetlands which are mined or otherwise destroyed by the project. In the future, if satisfactory evidence can be developed to show successful restoration of high quality wetlands, the three preserved areas would be considered for mining. Streams disturbed by mining or waste disposal would also be restored to a condition at least equal to the present. Phosphate reserve losses would total 6.71 million tons.

USEPA Area-Wide Categorization of Wetlands

Direct application of the wetland categorization scheme developed by EPA (1978) would preserve 1,060 acres of wetlands. These could not be mined until successful restoration techniques are developed. Phosphate reserve losses would be 30 million tons.

Site-Specific Application of USEPA Wetland Categorization Criteria

This alternative would place the same 233 acres of wetlands identified in the Development Order in preservation status. In addition, a 90-acre pilot project would be conducted by MCC to develop techniques for creating wetlands in historically wet areas.

Wetlands Systems

Application of systems ecology principles to identify valuable habitats would preserve 1,007 acres (including 720 acres of wetlands and 287 acres of mesic hammock). Phosphate reserve losses would total 29 million tons.

J. Phosphate Rock Transport

Alternatives evaluated included railroad (with trucks as emergency mode), trucks only, pipeline to port, and conveyor. Current transport practices in the phosphate district rely predominantly on the rail system. Rail transport was determined to be the environmentally and economically preferred alternative.

K. No Action

A no action alternative was evaluated to consider the effects and implications of not issuing an NPDES permit to MCC for the phosphate mine. This would effectively preclude mining on the site at the present time. Seasonally heavy rainfall would prevent implementation of a zero discharge water management design. (A zero-discharge design would not require an NPDES permit.)

No action would allow the area to be left in its present environmental and socioeconomic state for at least the near future. Air resources would not be impacted by a rock dryer. Land use would remain predominantly unimproved pasture. The existing wetlands and water resources would not be restructured. No intensive development would be expected at the site in the immediate future.

No action would result in loss of project investment to MCC and its farmer-owners. It would also cause a loss to MCC of approximately 94.5 million tons of phosphate rock reserves. Though reserves would likely be mined at some future date when high-grade phosphate reserves are depleted and the ore on the MCC site becomes strategically and economically more valuable, it is unlikely that MCC would retain ownership until that time.

4. Summary of Major Environmental Effects

Each of the selected alternatives was integrated into the appropriate land or water management strategy: the mining plan, waste disposal/reclamation plan, and water management plan. Environmental impacts of the proposed activity were then assessed. The major emphasis of the impact assessment was to identify means of minimizing the degree and extent of negative impacts caused by the mining operation at any one time and to minimize the permanent alteration and/or destruction of natural systems and environmental resources.

The direct effect of mining would be the physical destruction of much of the present natural vegetation and the alteration of the site's soils and topography. The proposed reclamation plan is intended to mitigate the long-term negative impacts of the mining operation. Major impacts to the three major topographic systems would be:

Land - Overall, 69 percent of the native upland vegetation would be lost. Reclamation is designed to replace most natural land communities with improved pasture (Figure 5), thereby largely precluding the re-establishment of original vegetation.

Land-Water Interface - There are approximately 2,980 acres of swamps and marshes on the site. Mining operations would not affect 440 acres (15 percent). An additional 233 acres (8 percent) would be preserved; mining or waste disposal on these wetlands would only be allowed if the USEPA determines at some future date that MCC has successfully demonstrated creation of wetlands onsite to an equivalent functional capacity. The mining and reclamation plans would result in post project wetlands consisting of 425 acres of swamp (87 percent of present acreage) and 2,025 acres of marsh (81 percent of present acreage) (Figure 6). The proposed reclaimed wetlands would have greater contiguity with surface streams than do those now in existence and would possess greater functional wetland value.

Water - Approximately 4 miles of streambeds with annual average flow greater than 5 cfs would be mined or used for waste disposal. Additional ephemeral streams on the site would be displaced. Aquatic areas would be stressed through changes in temperature, insolation, erosion, water table drawdown, and addition of various chemicals. Streambed reclamation would result in replacing predominantly channelized ditches with meandering, vegetated streams. Viable stream habitat would be maintained throughout the mine life by limiting mining activities to one side of a stream at a time and by creating a biologically functional alternate streambed sufficiently in advance of mining the existing streambed. Mining would create approximately 300 acres of lakes on the site, which is a significant expansion of the aquatic environment.

The proposed activity would thus significantly alter the site's original topography through strip mining and waste clay disposal activities. The long-term, net effects on topography are directly reflected in the proposed reclamation plan, which returns the site to pre-mining elevation and relief to the maximum possible extent. Approximately 2,200 acres would have a final elevation 40 to 45 feet above-grade and 1,500 acres would be approximately 25 feet above-grade.

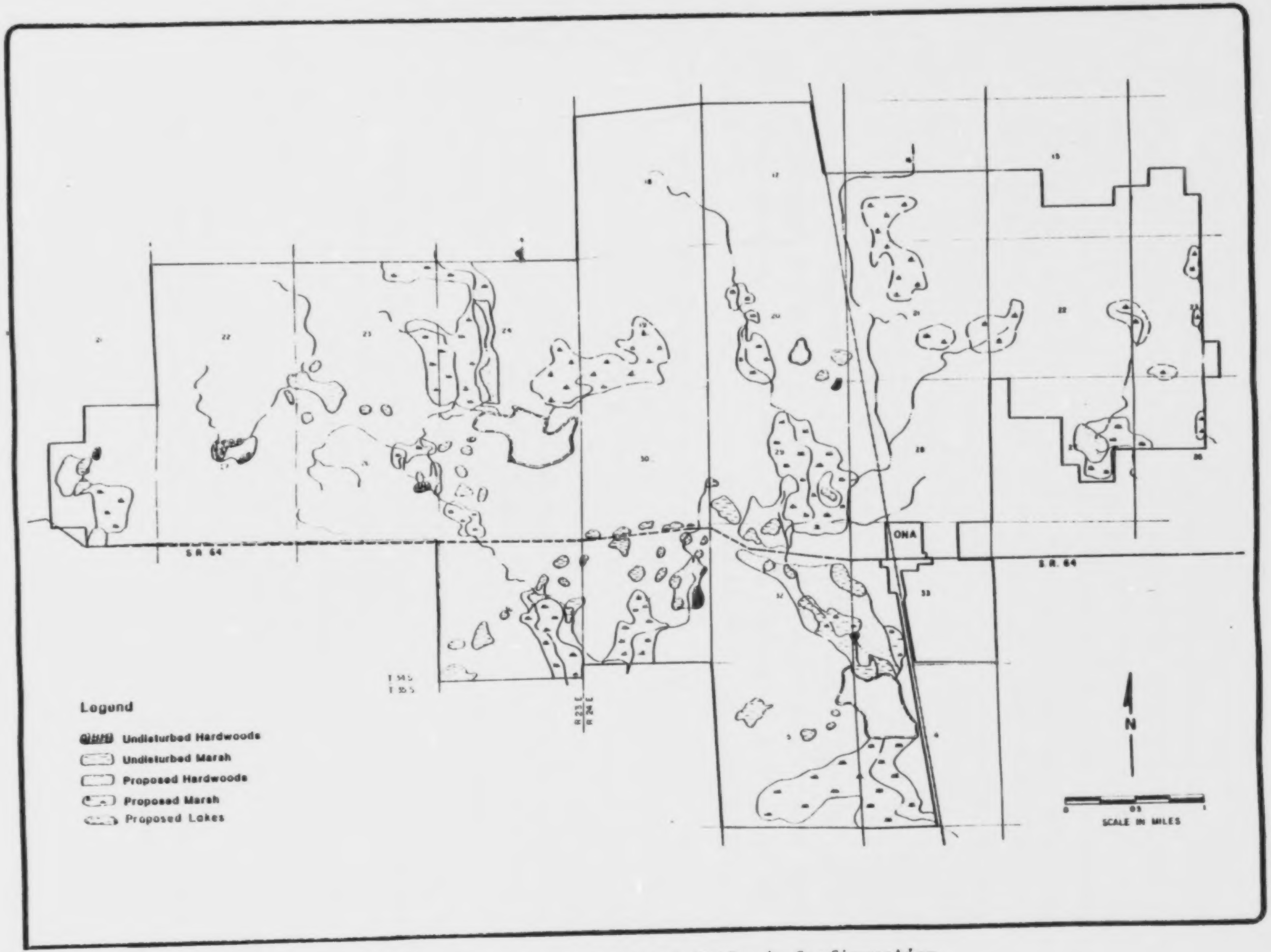
Legend
Undisturbed Hardwoods
Undisturbed Marsh
Proposed Hardwoods
Proposed Marsh
Proposed Lakes
S.R. 64
S.R. 64
ONA
T 34 S
T 35 S
R 23 E
R 24 E
N
0
0.5
1
SCALE IN MILES

Figure 6. Proposed Final Wetlands Configuration.

Proposed mining activities would disturb the existing soils on approximately 72 percent of the site. Existing soil profiles would be destroyed and, in general, the surface horizon would be buried. Waste disposal and physical reclamation would result in three types of surface soils: overburden, sand/clay cap mix, and tailings/overburden mix. Each of the new, reclaimed soil types would have distinct agricultural and engineering properties that relate to post-reclamation land use potential.

The average annual ground water withdrawals would be limited to 12.3 mgd (17.4 mgd during first three years). During the fourth year of mining, approximately 5.1 mgd of water would be diverted from Brushy Creek Reservoir for project use. Approximately 3.3 mgd is expected to seep into ground and surface waters from waste storage areas so that consumptive water use would be 14.1 mgd.

The primary effect of withdrawals from the deep ground water system would be the lowering of the potentiometric surface within the area of influence of the wells. This effect would be extremely small in comparison to the large seasonal fluctuation. Potential impacts to water quality in the deep aquifer system might occur as a result of these withdrawals and gradual recharge from the shallow aquifer to the deep aquifer system. Monitoring of the quality of ground water is required by the Southwest Florida Water Management District.

The primary effect of mining activities on the shallow ground water system would be the localized lowering of the water level caused by mine pit dewatering. The proposed reclamation project might cause changes in water quality in the surficial aquifer as well as changes in onsite flow patterns within the surficial aquifer.

During active mining, stream flow in Brushy Creek would decrease by approximately 26 percent. After reclamation, the average flows of surface streams draining the site would be approximately the same as at present.

Discharges to streams from the plant water system may be necessary due to temporal variation in rainfall. It is anticipated that an average of 10.71 cfs could be discharged into Oak Creek during the period from June through September. This would increase the average flow in Oak Creek by approximately 62 percent during these months. Effluents discharged to Oak Creek would generally meet applicable federal and state effluent guidelines. However, the ambient concentrations in Oak Creek for dissolved oxygen and pH violate (are below) Florida Water Quality Standards for Class III waters. MCC proposes to discharge effluents to this creek and would need to obtain relief from the Florida Department of Environmental Regulation (e.g., for Site Specific Alternative Criteria) to discharge these parameters. In addition, specific conductance and oil and grease concentrations in the mixed stream might violate Florida water quality standards (see Section 6, "Unresolved Issues").

The proposed mining activities would have both primary and secondary air quality effects. Primary effects would occur as a result of operation of the phosphate rock dryer; phosphate rock storage, handling, and transport; and fugitive dust from land clearing and reclamation activities. Secondary effects would result from transportation of materials and products associated with the proposed project. Primary emissions from the rock dryer and associated facilities would be very fine clay and phosphate rock particulates and by-products of the combustion of the fuel oil (e.g., sulfur dioxide and ash). Emissions from the proposed activities would not violate air quality standards or significantly degrade air quality. Sulfur dioxide and particulate matter emissions would satisfy New Source Performance Standards and BACT.

Noise levels associated with mine-related activities would not be intrusive or detrimental to sensitive receptors.

Mining, waste disposal, and reclamation activities would alter the distribution of radioactive materials in soils on the property. Future indoor radon daughter working levels (WL) could exceed USEPA proposed limits on clay storage areas if residences were built on these areas in the future. Remedial action, such as topsoil emplacement, might be necessary to lower these working levels. If the clay settling areas are excluded from such development for structural reasons or if topsoil replacement occurs, no restrictions on land use would be required. All other reclaimed lands on the site are predicted to produce radon progeny levels below the proposed 0.02 WL remedial action level.

Radium-226 concentrations in surface water onsite and downstream could increase very slightly due to effluent discharge and runoff from mined lands. Concentrations should be less than 2 pCi/liter, which is below the drinking water standard of 5 pCi/liter. Ground water concentrations should be slightly reduced because the surficial materials would contain less radioactive material after reclamation than at present.

Calculated individual and population dose commitments from inhalation, ingestion, and direct exposure pathways (including food chain contributions and airborne particulates from rock drying) indicate that increases during any phase of the project could not be measured within the statistical variation of natural background levels.

The socioeconomic impacts of the proposed project would be generally beneficial. Operation of the mine would directly employ 450 workers. It is estimated that 70 of these workers would originate from the Hardee County labor force. The mine would produce approximate annual tax revenues of more than $6.5 million. The total economic benefits, including direct, indirect, and induced impacts, for the operating phase of the project would total $42.4 million annually. The mine would exert no directly discernable effects on community services and facilities as the operation would be self-sufficient in terms of minor medical treatment, water supply, fire and police protection, solid waste disposal, and internal transportation facilities. The mine would not measurably increase demand on regional facilities for education, major medical treatment, recreation, and transportation.

Long-term land use patterns should not be adversely affected by the mining activity. The planned mine reclamation program would return the site to land forms amenable to a variety of agricultural uses. The proposed mine site would be located near several other phosphate mines and, therefore, should not disrupt near-future land use trends in the area.

5. Mitigative Measures

MCC has included a broad range of measures to protect the environment as part of their mine development plans. These are detailed in the Draft EIS, Section 3.0. Several additional measures which would further serve to mitigate the impacts of the proposed project on the surrounding environment were identified during the environmental review process. These measures are outlined below:

- Implement a program to minimize impacts to the eastern indigo snake (a threatened species) which occurs on the site. The program would emphasize capture of the snake and release through coordination with the Florida Game and Fresh Water Fish Commission.
- Implement a program to excavate an aboriginal site eligible for National Register listing.
- Mine only one side of a stream at a time to prevent disruption of surface drainage and maintain biological systems in the streambed.
- Preserve from mining and waste disposal activities the major, functionally significant wetlands onsite (Figure 4). At such time as MCC has demonstrated the creation of wetlands having essentially equal functional values, MCC could re-open the possibility of mining the preserved areas with the USEPA.
- Conduct a 90-acre experimental wetland restoration program in Sections 31 and 32, T34S-R24E to demonstrate the ability of creating wetlands in historically wet areas.

- Implement a sand/clay capping technique to minimize above-grade clay storage areas and restore topography to as close to original conditions as possible.
- Establish a "no-mining" setback around the periphery of the preserved wetlands to preserve the hydrology of these wetlands.
- Allow qualified paleontologists reasonable opportunity to salvage paleontological specimens and information from the site.

6. Unresolved Issues

Mississippi Chemical Corporation and the Florida Department of Environmental Regulation are currently discussing procedures to establish appropriate relief (e.g., Site Specific Alternative Criteria) from Florida water quality standards. Relief from the standards is necessary since some water quality parameters in the receiving stream (Oak Creek) violate the standards. This issue has not been resolved.

7. Draft Environmental Impact Statement Comments

A Draft Environmental Impact Statement (EIS) was made available to the Council on Environmental Quality (CEQ) and the public on September 3, 1981. A public hearing on the Draft EIS was held in Wauchula, Florida, on October 21, 1981.

Several comments on the Draft EIS were received during the comment period. The comments are addressed in Chapter 4 to the Final EIS, "Public Participation."

8. Agency Decision

Based on the environmental, technical, and economic analyses detailed in the DEIS and supporting documents and on the comments received on these documents, the USEPA's preferred alternatives for the major project components are as follows:

Mining: Dragline
Matrix Transport: Slurry pipeline

Matrix Processing: Conventional beneficiation
Rock Drying: Dryer at Ona Site
Process Water Source: Ground/surface water
Wastewater Treatment: Discharge to surface waters
Reclamation: Conventional with sand/clay cap
Wetlands Preservation: Site-specific application of Areawide EIS wetland criteria

As noted, the USEPA's preferred alternatives for the major project components are generally identical to those proposed by MCC. With regard to waste disposal, a sand/clay mix process would normally be environmentally preferable. However, because of the low ratio (<2 to 1) of sand to clay on the property, full implementation of this alternative is not technically possible. The sand/clay cap alternative proposed by MCC optimizes use of onsite geological resources and is environmentally acceptable.

The wetlands preservation alternative preferred by the USEPA is the site-specific application of the Areawide EIS wetlands criteria. The site-specific alternative identified three onsite wetlands, totalling 233 acres (Figure 4), as being characteristic of Category I wetlands and worthy of preservation. The wetlands systems alternative identified two additional wetland areas as being of importance on the site. Because of the extensive stream channelization existing on the property, the small and isolated nature of most wetlands, and the generally lesser habitat and water quality value of these wetlands, they were not determined by the USEPA to be characteristic of Category I wetlands. In view of the loss of these wetlands, a 90-acre restoration program would be conducted as an integral part of the USEPA's preferred alternative. This 90-acre program would be in addition to the restoration program identified in the Hardee County Development Order alternative. The extensively alterred hydrologic character of the MCC property provides suitable sites for conducting a study of this nature. Functionally more valuable wetlands would likely be created during reclamation of the property for the wetlands which are not preserved.

Pursuant to provisions of the Clean Water Act of 1977, EPA proposes to issue an NPDES permit to Mississippi Chemical Corporation for the Hardee County Phosphate Mine. The decision to issue the NPDES permit is based upon USEPA's review of the project and the associated environmental implications. USEPA considered, in the decision process, the comments raised on the Draft EIS and related studies by other federal and state agencies, interested groups, and concerned citizens.

Several measures which would serve to mitigate the impacts of the proposed project on the surrounding environment were identified during the environmental review process. These measures were identified previously in this document and have been made conditions of the NPDES permit.

FINAL ENVIRONMENTAL IMPACT STATEMENT

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EXECUTIVE SUMMARY FOR ENVIRONMENTAL IMPACT STATEMENT i

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  6.3 CORRESPONDENCE WITH ADVISORY COUNCIL ON HISTORIC PRESERVATION

1.0 PREFACE

In August of 1981, the U.S. Environmental Protection Agency (USEPA) Region IV published and distributed a Draft Environmental Impact Statement (DEIS) on the proposed Mississippi Chemical Corporation Hardee County Phosphate Mine. The DEIS was written pursuant to the National Environmental Policy Act (NEPA) of 1969. While the DEIS was a complete document, much of the detailed technical information and supporting data were presented in a Technical Support Document. The DEIS was distributed to the appropriate federal, state, and local agencies and to interested individuals. The Technical Support Document was available for review at a number of locations and was distributed on a limited basis.

This Final Environmental Impact Statement (FEIS) has been prepared to conform with the Council on Environmental Quality (CEQ) regulations (40 CFR Part 6) for implementing NEPA. The essence of the NEPA decision process is contained in the Summary Sheet for the FEIS; it describes the existing problem requiring a decision, summarizes alternatives - including mitigative measures - and their associated impacts, identifies major concerns and issues, and presents USEPA's conclusions and decision.

In an effort to avoid excessive paperwork and costly reproduction, the DEIS text has not been reprinted in the FEIS. The supporting information furnished in the DEIS and its Technical Support Document should be reviewed and are incorporated herein by reference.

Chapter 2.0, Errata, comprises the corrections to substantive errors and omissions in the DEIS and support document.

Chapter 3.0 contains a description of the public participation program conducted for the EIS. Included in this chapter are copies of written communications submitted to USEPA in response to the DEIS, followed by USEPA's responses to each individual comment. These are followed by a transcript of the public hearing on the DEIS and a point-by-point response to the hearing comments.

Chapter 4.0 of the FEIS lists the agencies and groups to whom the FEIS will be sent for review and comment. Chapter 5.0 identifies the individuals involved in its preparation. An appendix to the FEIS (Chapter 6.0) contains the Final NPDES permit, the Consumptive Use Permit issued by the Southwest Florida Water Management District, and a letter response to the Advisory Council on Historic Preservation.

In accordance with CEQ regulations, there will be a 30-day review and comment period following publication of this FEIS and its filing with the CEQ.

2.0 ERRATA

Page	Paragraph	Line	Correction
2.2-1	3	4	Change "SW corner of Section 30," to "NE corner of Section 30."
2.6-1	2	3	Change "of 2.31 mgd might be..." to "of 6.93 mgd might be..."
		4	Change "period (Figure 2.5-1)." to "period (see Section 3.2.1.2 and Figure 2.5-1)."
2.8-8	3	3,4	Insert period after "tails," delete line 4 "along with the years they would be placed."
3.1-7	1	4	Change "designated as "M,"" to "designated as "MC,""
3.2-19	1	4	Change "aquifer (see Figure 3.1-2)." to "aquifer (see Figure 3.1-3)."
	1	4	Delete last sentence, beginning "Regional..." and replace with "Regional and site characteristics of each of these units, including well logs, are detailed in the ADA/DRI (MCC, 1977) and Consumptive Use Permit application supporting document (LaMoreaux, 1976). The site characteristics of these units are summarized herein."
3.2-20	3	5	Change "Floridan aquifer (Figure 3.1-2)." to "Floridan aquifer (Figure 3.1-3)."
3.2-21	4	-	Replace paragraph with the following: "At the property, a comprehensive aquifer pumping test program was implemented in order to calculate the aquifer coefficients of each limestone unit. Details of the program, test results, and analytical methods are presented in the ADA/DRI (MCC, 1977) and Consumptive Use Permit supporting document (LaMoreaux, 1976). Table 3.2-7 summarizes the results of the program showing the thickness and the range of values for transmissivity and storage coefficients within the Suwannee Limestone, the Ocala Group, and the Avon Park Limestone."

Page	Paragraph	Line	Correction
Table 3.2-6			Column "Florida Standards"
		17	Insert "1.0 max." (reference to iron)
		18	Delete "1.0 max." (reference to mangnesium)
Table 3.2-7		2	Change "1.1 x 10^{-5}" to "1.3 x 10^{-5}"
		3	Change "1.5 x 10^{2}" to "1.5 x 10^{6}" and change "1.4 x 10^{-2} to "4.2 x 10^{-4}"
3.5-1	2	6	Change "between 1970 and" to "between 1975 and"

3.0 PUBLIC PARTICIPATION

The Draft Environmental Impact Statement (DEIS) was published in August 1981 and made available to the Council on Environmental Quality and the public. A public notice appeared in the local newspapers. The Federal Register (Volume 46, No. 172) dated September 4, 1981, announced the availability of the DEIS and the proposed issuance of an NPDES permit. The DEIS was provided to numerous federal, state, and local agencies as well as concerned individuals, interest groups, and public officials.

A notice of the public hearings was published on September 3, 1981. The public hearing was held in Wauchula, Florida, October 21, 1981. The comment period on the DEIS remained open through November 13, 1981. In addition to the opportunity for public input afforded by the hearing (transcript provided herein), a number of letters were received during the comment period and are included in this Final EIS.

The designations in the margins of the letters (W-1 thru W-47) identify those specific comments for which responses have been developed. These responses follow the letters. There were no comments at the public hearing which require a response.

3.1 WRITTEN COMMENTS

THE FLORIDA STATE MUSEUM
UNIVERSITY OF FLORIDA

DEPARTMENT OF NATURAL SCIENCES

FSM

the florida
state museum
museum road
university
of florida
gainesville
32611
904/392-1721

August 10, 1981

Ms. A. Jean Tolman
U.S. Environmental Protection
Agency
EIS Branch
345 Courtland Street, NE
Atlanta, Georgia 30365

Dear Ms. Tolman:

On several occasions recently, we have received inquiries as to the paleontological resources of the phosphatic sediments of the Bone Valley Mining District of central Florida. To date this district has been centered in Polk and Hillsborough counties, but W-1 now, as you know, it is rapidly extending southward into Manatee, Hardee, and Sarasota counties. In view of this pattern of activity, I believe it may be worth stating directly to you the paleontological importance of this area.

The Bone Valley District has produced a rich series of samples of fossil vertebrates ranging in age from late Miocene through late Pleistocene. The importance of these samples stems from the fact that for most ages they are among the richest in eastern North America. They are also important for their ecological relationships which span from terrestrial through estuarine to marine habitats. The basic outline of this rich series of fossil samples had been established by 1930 (see especially Simpson, 1930). Nonetheless, many new discoveries have been added in recent years (e.g. Webb 1973; MacFadden and Waldrop, 1980). And, so great is the potential of this area, according to the judgement of paleontologists, that two current grants from the National Science Foundation feature new collecting efforts throughout the marine and terrestrial sediments of the Bone Valley District (NSF grants to Daryl Domning, Howard University, 1981; Webb and MacFadden, University of Florida, 1979). Thus, there is every reason to expect important paleontological discoveries in this district.

In the newer southern extension of this district, there is only a limited basis for predicting exact locations of fossil concentrations. The few exposures that have occurred, such as the Manatee County Dam Site (Webb and Tessman, 1968), have encouraged great expectations. In general, the phosphatic formations are widespread laterally, so that the few known localities probably are generally indicative of fossiliferous terrain.

EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION EMPLOYER

For these reasons we strongly urge that any environmental impact statements in the Bone Valley Phosphate Mining District or its southward extensions in Hardee, Manatee, and Sarasota counties, be required to take into account the potential for valuable paleontological resources.

If you wish to discuss these matters further, please let us know.

Sincerely yours,

S. David Webb and Bruce J. MacFadden
Curators of Fossil Vertebrates
Florida State Museum

References Cited:

MacFadden, B.J. and J.S. Waldrop. 1980. *Nannippus phlegon* (Mammalia, Equidae) from the Plio-Pleistocene (Blancan) of Florida. *Bulletin Florida State Museum, Biological Sciences*, vol. 25,

Simpson, G.G. 1930. Tertiary Land Mammals of Florida. Bull. Amer. Mus. Nat. Hist., *59*:149-211.

Webb, S.D. 1973. Pliocene Pronghorns of Florida. Journal of Mammalogy. *54*:203-221.

Webb, S.D. and N. Tessman. 1968. A Pliocene vertebrate fauna from Manatee County, Florida. American Journal of Science, 266:777-811.

SDW:BJM:map

**Advisory
Council On
Historic
Preservation**

1522 K Street, NW
Washington, DC 20005

September 18, 1981

Ms. Rebecca W. Hanmer
Regional Administrator, Region IV
U.S. Environmental Protection Agency
345 Courtland Street
Atlanta, GA 30365

Dear Ms. Hanmer:

On September 8, 1981, the Council received a letter and supporting draft environmental impact statement from Mr. Robert B. Howard, Chief, EIS Preparation Section, concerning issuance of a National Pollutant Discharge Elimination System (NPDES) permit for a proposed phosphate mine in Hardee County, Florida. It is our understanding that EPA, in consultation with the Florida State Historic Preservation Officer (SHPO), has determined that issuance of the permit will have no adverse effect on Archeological site 8Hr5 (Aboriginal Site #1), a property eligible for the National Register of Historic Places. This determination is based on EPA's intention to condition the permit on archeological data recovery at the site prior to mining or other land-disturbing activities.

M-2 Under the Council's regulations (36 CFR Part 800), the Executive Director will not object to your determination of no adverse effect if you will agree to the following condition:

> A data recovery plan, including a detailed research design, for archeological investigations at archeological site 8Hr5 will be submitted to the Florida SHPO and the Council for review prior to implementation. If neither the SHPO nor the Council objects within 15 days after receipt, EPA will ensure that the proposed data recovery plan is implemented prior to mining or other land-disturbing activities. If either party objects, EPA will consult with the SHPO, the Council, and the Mississippi Chemical Corporation in order to resolve the objections.

If you agree to this condition, please sign on the concurrence line below and return this letter to us. This will then be incorporated into your determination, and the Executive Director will concur in your determination of no adverse effect.

In accordance with Section 800.8 of the Council's regulations, a copy of your determination of no adverse effect, along with supporting documentation and this conditional concurrence, should be included in the final environmental impact statement prepared for this undertaking in compliance with the National Environmental Policy Act. Is should also be included in your records as evidence of your compliance with Section 106 of the National Historic Preservation Act and the Council's regulations.

Thank you for your cooperation. If you have any questions, please contact Ronald Anzalone, our Staff Archeologist, at FTS 254-3495.

Sincerely,

Jordan E. Tannenbaum

Jordan E. Tannenbaum
Chief, Eastern Division of
Project Review

I concur:

(date)

U.S. Environmental Protection Agency, Region IV

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

September 18, 1981

Mr. John E. Hagan, III
United States Environmental
Protection Agency - Region IV
345 Courtland Street
Atlanta, Georgia 30365

RE: Comment (3.5.4 Noise) EIS Mississippi Chemical Corporation
Hardee County Phosphate Mine, Hardy County, Florida.

Dear Sir:

As a suggestion, for everyone's consideration, I would point out that based on ambient levels showing in Table 3.5-1 (Summary of Environmental Sound Levels[a]) that this baseline of quiet be preserved.

To insure that the community of Ona, Florida, and three other locations mentioned bordering this site, has the consideration for keeping their quiet, I would make these suggestions:

1) All buildings perform as buffers between noise sensitive locations and mining operations where practical.

2) All overburden stock piled, from mining activities, be used as a berm protecting those most sensitive locations, if possible. W-3

3) That all equipment on site or serving the site be double muffled with hospital mufflers, and that the integrity of each vehicle's exhaust system be stock, and not modified. That any vehicle with either defective or modified exhaust systems be barred from the site until retrofit is made.

4) That, from the outset, a policy of being neighborly, be pointed out, by stating that every effort to mitigate noise from intruding into the community, will be made.

5) That those activities which are more offensive noise-wise will be carried out during daylight hours and not at night.

6) That some person be designated as laison for noise complaints with the community and in the beginning of the Company's project.

7) That a Buy Quiet Policy be adopted for purchase of equipment and vehicles to be used on the site.

Armed with this approach, and any other quieting technique to preserve or to gain quiet, I predict the possibility of keeping a good relation with the neighbors should follow.

Sincerely,

D E Wile

Dennis E. Wile
Environmental Specialist
Noise Control Program

DEW:ls

United States Department of Agriculture
Forest Service
Southeastern Area
1720 Peachtree Road, NW
Atlanta, Georgia 30367

Reply to: 1950 (PP)

Date: September 30, 1981

Mr. Davis J. Dal Santo, EIS Project Officer
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Dal Santo:

We have reviewed the draft EIS for the Mississippi Chemical Corporation Hardee County Phosphate Mine, Hardee County, Florida and have the following comments:

1. Overall, the draft EIS, technical support document and a good reclamation plan for the disturbed phosphate mined areas were well written. The unique presentation, ie. showing the description of the resources followed immediately by the environmental and technical considerations greatly aided the reader in the review process.

2. Mississippi Chemical Corporation plans to develop a phosphate mine and beneficiation plant on approximately 23 square miles or 14,850 acres in Hardee County. Approximately 10,722 acres of vegetative communities and acreage will be affected by the proposed mining, clay storage and reclamation. Of this area, 4,500 acres of palmetto/pine flatwoods, hammochs and 2,540 acres of wetland (swamps and marshes) will be disturbed. In addition, 4 miles of stream beds will be affected. This loss of natural vegetation on these areas will have a large negative impact on the terrestrial ecology and wildlife habitat more so than the loss of pasture and citrus land. The mining operation will result in the displacement and loss of numerous plant, animal, bird and other wildlife species. The mitigative measures, which have been suggested, are very good and provisions should be made to see that these are done. Some thought should be given to establishing slash pine and eucalyptus plantations on good forest sites in the reclaimed pine flatwood areas. High yielding, well managed pine plantations would produce at least 150 board feet per acre per year through a rotation. W-4

It is suggested that Mississippi Chemical contact the District Forester or the State Forester, Florida Division of Forestry to request assistance on the forestry recommendations of the reclamation plan and its implementation. The State Forester's address is Mr. John Bethea, Division of Forestry, Florida Department of Agriculture and Consumer Services, Collins Building, Tallahassee Fl. 32301. W-5

ENVIRONMENTAL IMPACT STATEMENT BRANCH
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REGION IV - EPA

3. Another important concern, which we have, is the effect of the use of large quantities of ground and surface water for the mining and beneficiation process. The presented data shows there will be little affect on water levels and water supplies necessary for the mining process, as well as, the irrigation systems and wells already in operation. However, if more mining operations were started and more wells for irrigation drilled in Hardee and surrounding counties, there no doubt would be an adverse effect on the water tables, levels, and aquifers especially in times of low rainfall and drought. Water levels and water quantities and qualities should be constantly monitored to make certain that aquifers are being recharged and not being destroyed when actual mining operations are being conducted. W-6

We appreciate the opportunity to review this draft EIS and look forward to receiving a copy of the final when it is published.

Sincerely,

ROBERT D. RAISCH
Area Director

United States Department of Agriculture

Soil Conservation Service

P. O. Box 1208
Gainesville, FL 32602

Subject: EVT - Draft Environmental Impact Statements **Date:** October 8, 1981

To: Dario J. Dal Santo, EIS Project Officer
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

We have no comments on the Draft Environmental Impact Statement for the Mississippi Chemical Corporation Hardee County Phosphate Mine, Florida. W-7

Jesse B Livingston (Acting)
James W. Mitchell
State Conservationist

cc: Norman Berg, Chief, NO, SCS, Washington, D.C.

The Soil Conservation Service
is an agency of the
Department of Agriculture

MISSISSIPPI CHEMICAL CORPORATION'S COMMENTS TO THE DRAFT EIS AND THE DRAFT NPDES PERMIT

SUBMITTED TO USEPA BY MCC
AT PUBLIC HEARING IN WAUCHULA 10/21/81

I. EXECUTIVE SUMMARY

A. Timing of Discharge

In Section 3(f) of EPA's Executive Summary discussing the wastewater treatment, EPA notes that "(D)ischarge of the effluents to surface waters would occur during the rainy season . . ." [Page v].

Response:

M-8 Under normal operating conditions, MCC expects discharges of process wastewater to occur only during the rainy season. However, this does not preclude discharges during other periods. It may be necessary to discharge from the plant wastewater system during other periods due to temporal variations in rainfall, unforeseen circumstances and emergencies. Most of these anticipated discharges will be the result of unusual rainfall events and should coincide with increased flow in the receiving stream.

B. Florida Ambient Water Quality Standards

In Section 6 of the Executive Summary, EPA indicates that an "unresolved issue" regards the possibility that the ambient concentrations in Oak Creek may not satisfy Florida water quality standards for Class III waters and that MCC would need to obtain relief from the Florida Department of Environmental Regulation ("DER") for site specific alternative criteria ("SSAC") to discharge the parameters of dissolved oxygen, pH and possibly specific conductance and oil and greases. [Pages xiv-xv].

Response:

As indicated in Response No. III-A, MCC is currently discussing SSAC and other appropriate relief with DER. M-9

II. DRAFT EIS

A. Non-Degradation of Ambient Water Quality in Oak Creek

EPA comments that the discharge to Oak Creek (discharge point 001) would not have a significant adverse effect on existing water quality [Page 2.6-3].

Response:

MCC agrees that the discharge will not significantly degrade existing water quality in Oak Creek. MCC has evaluated typical phosphate mine wastewater discharges (Table 3.2-4) and has determined that the constituent concentrations reasonably expected to be contained in the effluent discharge will not degrade the water quality and will in most cases improve the water quality. W-10

B. Discharge not Limited to Wet Season

EPA contemplates that "the most likely time for effluent discharge is during the wet season from June through September." [P. 3.2-7].

Response:

MCC agrees that the most likely time for the discharge will be during the rainy season months as indicated in Response No. I-A. However, MCC cannot control the temporal variations in rainfall or other conceivable emergencies and emphasizes that it may be necessary to discharge in months other than June through September. W-11

C. Size of Mine Alternatives

EPA evaluated viable alternatives to the mining method proposed by MCC, including the use of dragline excavators. [Section 2.1.1] EPA commented that the characteristics of MCC's Hardee County phosphate deposit and the desired production levels are such that two large draglines, each with a 45 cubic yard bucket capacity, will be required. [P. 2.1-4].

Response:

MCC has evaluated various sizes of phosphate mines for their feasibility and desirability, including sizes of 1.5 million tons per year, 3 million tons per year and 4 million tons per year product output. Feasibility and desirability are essentially business decisions.

Environmentally, there are essentially no differences among the mine size alternatives. Generally, the same areas would be mined in each case and there would be no differences in product tonnages or waste volumes produced over the life of the mine. The final reclamation results are essentially the same with each alternative. W-12

In view of the environmental indifference among the alternatives, the election of mine size remains basically a business decision. The 3mm tpy mine size is preferred by MCC as best serving its business purposes. However, some adjustments could be made based on business factors such as cost, market conditions, product needs, and interest rates at the time. A combination of the alternatives might be used. For example, mining operations might begin at 1.5mm tpy and after a few years be expanded to 3mm tpy.

The 3mm tpy mine size as presently proposed is favored for economic, financial and production considerations. The 4mm tpy alternative offers lower unit costs but carries a heavier debt load and has a shorter mine life. In addition, this higher mining rate carries the risk of overtaxing the available water supply, at least during portions of the year. The 1.5mm tpy mine size offers the lesser debt load and longer mine life, but unit costs would be higher.

1.5 MILLION TONS PER YEAR

The 1.5mm tpy alternative would increase mine life to about 63 years. The construction work force would be smaller and employed for a shorter period of time than for the 3mm tpy mine presently proposed. The plant work force would be smaller but would be employed for a longer period of time. Water withdrawals would be at a lower rate for a longer period of time. Mining area and waste clay disposal area would be the same as the proposed 3mm tpy mine. Reclamation would proceed proportionately slower since waste material used for reclamation fill would be generated at a slower rate.

This alternative is less attractive to MCC because of the increased cost per ton of product. In addition, operation with one dragline on this orebody would produce substantial year-to-year variations in both production tonnage and product quality, a situation which is mitigated by the use of two or more draglines in the other alternatives. While different approaches to mine planning might reduce these variations to an acceptable level for a few years, the year-to-year variations expected over full mine life would be unacceptable.

3 MILLION TONS PER YEAR

The 3 million ton per year (3mm tpy) alternative is the proposed action. Its environmental, social, and economic impacts are those discussed fully in the EIS.

This alternative is favored by MCC because of the balance among all factors including cash flow and production.

4 MILLION TONS PER YEAR

The 4 million ton per year (4mm tpy) alternative would require a larger work force and/or longer construction time and a larger plant work force, but for a shorter period of time. At 4mm tpy production rate, mine life would be approximately 23 years. Water withdrawals would be greater but for a shorter period of time, and water availability may limit production rates over portions of some years. Mining area and waste clay disposal area would be about the same as the proposed 3mm tpy mine, although the initial clay settling area might have to be somewhat larger due to its shorter life span. Reclamation would proceed proportionately faster due to more rapid generation of mine void and waste material used as fill in reclamation.

This alternative is less attractive to MCC because of the higher total capital investment, the higher rate of production, the potential operating limitations because of insufficient water supply and the shorter mine life, while the cost per ton of product is only slightly lower.

III. Draft NPDES Permit

A. Effluent Limitations

1. Total Suspended Solids: 30 mg/1 Daily Average
   60 mg/1 Daily Maximum
2. Specific Conductance: 550 micromhos/cm Daily Average
   900 micromhos/cm Daily Maximum
3. Radium: (Combined Radium 226 & 228) 5 pci/1 Daily Average
   10 pci/1 Daily Maximum
4. The pH shall not be less than 6.0 standard units nor greater than 8.5 standard units.

Response:

MCC has no objection to the effluent limitations that incorporate the published EPA guidelines for pH and TSS. We understand the other discharge limitations contained in the Draft NPDES Permit are based on EPA's expectation of the limits to be required by the Florida Department of Environmental Regulation (DER). The State, however, has indicated that routine requirements may not be adequate for the Hardee County mine, and may apply special conditions. These conditions are currently being discussed with DER. Accordingly, MCC requests that the Draft W-13

NPDES Permit be revised to incorporate the published EPA guidelines only and to simply state that any conditions imposed by DER will be incorporated by reference in the federal permit. MCC agrees to comply with the published EPA limitations.

B. NEPA Requirements

The Draft NPDES permit incorporates requirements of the National Environmental Policy Act in Part III of the Draft Permit.

Response:

MCC has no objection to the recommended mitigating measures themselves. However, these conditions are unrelated to the point of discharge itself. Accordingly, MCC believes that EPA is not authorized to include the NEPA conditions as discharge conditions. W-14

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
Atlanta, Georgia 30333

(404) 262-6649

October 26, 1981

Mr. Dario J. Dal Santo, EIS Project Officer
U.S. Environmental Protection Agency, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Dal Santo:

We have reviewed the Draft Environmental Impact Statement (EIS) for the Proposed Issuance of a New Source National Pollutant Discharge Elimination System Permit (NPDES) to the Mississippi Chemical Corporation-Phosphate Mine in Hardee County, Florida. We are responding on behalf of the Public Health Service and are offering the following comments for your consideration in preparing the Final EIS.

We understand that EPA "tentatively proposes to issue an NPDES permit" provided the project incorporates all of EPA's recommended conditions. In general, we find that the EIS satisfactorily addresses the environmental impacts of the proposed phosphate mine and beneficiation plant. However, we believe that measures should be taken to monitor the effect of the mine's groundwater withdrawals upon private wells close to the withdrawal area. W-15

Disposal basins and ponds should be designed and managed to prevent the increase of any vector populations that have the potential to cause disease or nuisance problems. The capability of local health authorities and mining personnel to detect and prevent excessive onsite breeding of problem vectors should be discussed. Consideration should be given to incorporating the above recommendations on vector management and control as a permit condition. W-16

Will the applicant conduct any type of blasting during the operation of the mine? If so, noise impacts upon local residents should be addressed. W-17

It appears that the projected indoor radon daughter working levels (WL) for certain reclaimed portions of the mine may exceed EPA recommended limits. Therefore, all disturbed and reclaimed lands should optimally be in compliance with applicable State and Federal radiation standards before being sold or transferred by the applicant. At a minimum, a deed restriction(s) should be recorded as soon as project lands become disturbed and/or reclaimed to protect future public health. The deed restriction could require: (1) the property to be in compliance with applicable State and Federal radiation standards before any structures can be constructed or (2) the use of special structural design features to permit compliance with applicable standards. W-18

We appreciate the opportunity to review this Draft EIS. Please send us one copy of the Final EIS when it becomes available. Should you have any questions regarding our comments, please call Robert Kay of my staff at FTS 236-6649.

Sincerely yours,

Frank S. Lisella, Ph.D.
Chief, Environmental Affairs Group
Environmental Health Services Division
Center for Environmental Health

ENVIRONMENTAL IMPACT STATEMENT
BRANCH
RECEIVED
OCT 27 1981
REGION IV - EPA

United States Department of the Interior

OFFICE OF THE SECRETARY

Southeast Region / Suite ~~1412~~ / Atlanta, Ga. 30303
Richard B. Russell Federal Building
75 Spring Street, S. W.

October 28, 1981

ER-81/1846

Regional Administrator
Environmental Protection Agency
340 Courtland Street, NE
Atlanta, Georgia 30365

Dear Sir:

We have reviewed the Draft Environmental Impact Statement for Mississippi Chemical Corporation Phosphate Mine, Hardee County, Florida, and have the following comments.

General Comments

In our view, the draft statement could describe more clearly the cumulative impacts this proposal will have on the terrestrial ecology and human environment for Hardee County and the region as a whole.

While we fully realize that an exhaustive number of studies are referenced in the instant analysis, we are, nevertheless, deeply concerned that the DEIS only addresses the most recent statement (EPA 904/9-81-072B DEIS for Farmland Industries, Inc., Phosphate Mine, Hardee County, Florida) in only one impact section (hydrology). It is important to note that the data generated for this May 1981 Farmland DEIS is not only timely but highly valuable in that the two proposals physically abut each other. By this omission, the EPA seemingly fails to "tier" the analysis of the socio-economic and off-site impacts these actions will have singularly and cumulatively as required by Council of Environmental Quality regulations. W-19

Due to these deficiencies, it is difficult to establish preproject conditions. Once this information is presented in a sufficient manner, an easier analysis of project impacts could be completed. We suggest that the following remedial actions be included in the final environmental statement:

1. Present the full array of data about each alternative in tabular form for easier comprehension and analysis.
2. Include a site-specific map that depicts existing and proposed phosphate mining relative to the proposal under study.

3. Present a table of the environmental impacts for all phosphate mining (on and off-site impacts) for the immediate and adjacent area(s).

The draft environmental statement adequately addresses our concerns for recreation and cultural resources. Also, the proposed project will not adversely affect any existing, proposed, or known potential units of the National Park System.

Specific Comments

2.10.1.1

As we understand the approved plan by EPA, certain wetlands will not be mined until the company establishes their ability to reclaim wetlands into both swamp and marsh habitats. Specific marsh and swamp reclamation plans should include a monitoring plan which has diversity and similarity indices as the measurement. W-20

2.10.5

We agree that if the wetlands as shown on Table 2.10.6 cannot be preserved because of the company's mining plan, then the 90 acres of additional wetland creation proposed by EPA should be added to the restoration program. This additional acreage should be subject to the findings after monitoring occurs on the test reclamation areas ordered to be completed by Hardee County. W-21

2.3.3.2.3

We agree with the planned buffer zone around wetlands planned to be preserved. W-22

3.1.1.4

The section, "Mineral Resources," should mention in some detail the phosphate mine proposal (7,810 acres) of Farmland Industries, Inc., and highlight the major consequence, if any, this proposal may have on the environment should both companies be permitted at the same time. Throughout the remainder of the document, EPA should attempt to answer these types of questions as they do in the hydrology section. W-23

Although BLM does not have any pending or active leases on any of the 3,400 acres of Federal mineral ownership located in Hardee County, the draft should address public and private phosphate reserves for the involved area at least to make the document more complete.

Summary Comments

The draft statement does not present a uniform discussion of mitigation and/or monitoring requirements imposed by Hardee County, the State of Florida, or other licensing authorities for development and operational components W-24 for the life of the mine. Inclusion of this type of discussion or table would appreciably improve the document and should be included in the final environmental statement.

We urge the Environmental Protection Agency to ensure, through the use of stipulations in the NPDES permit, execution of development and operational plans in a timely and orderly fashion. Adequate provisions concerning site reclamation activities should be included in the permit to minimize long-lasting adverse environmental impacts. W-25

Sincerely,

James H. Lee

James H. Lee
Regional Environmental Officer

Southwest Florida
Water Management District
5060 U.S. HIGHWAY 41, SOUTH — BROOKSVILLE, FLORIDA 33512
PHONE (904) 796-7211

BRUCE A. SAMSON, Chairman, Tampa
Wm. O. STUBBS, JR., Vice Chairman, Dade City
JAMES CAMPBELL, Secretary, Plant City
RONALD B. LAMBERT, Treasurer, Wauchula

B. T. LONGINO, Sarasota
CLIFF STEPHENS, Clearwater
DON CRANE, St. Petersburg

JIM KIMBROUGH, Brooksville
ARCH UPDIKE, JR., Lake Wales

WILLIAM C. TATUM, Executive Director

October 29, 1981

Mr. John E. Hagan III
Chief EIS Branch
U. S. Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, FL 30365

SUBJECT: Draft EIS, Mississippi Chemical Corporation
Hardee County Phosphate Mine
Hardee County, FL
NPDES # FL 0037

Dear Mr. Hagan:

Upon review of the above referenced document by District staff, it was noted that the subject of the EPA NPDES permit pertains to discharges into Oak Creek. As a tributary of the Peace River, a Work of the District, any discharge or other activities making use of Oak Creek and all other tributaries are subject to District evaluation pursuant to Chapter 40D-6, F.A.C.

W-26

Thank you for the opportunity to comment.

Sincerely,

Dorothea P. Cole

DOROTHEA P. COLE
Planner
Planning and Program Development Division

DPC:kag

cc: Mississippi Chemical Corporation

ENVIRONMENTAL IMPACT STATEMENTS
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REGION IV - EPA

STATE OF FLORIDA
Office of the Governor
THE CAPITOL
TALLAHASSEE 32301

BOB GRAHAM
GOVERNOR

November 12, 1981

Mrs. A. Jean Tolman
EIS Project Officer
Environmental Protection Agency
Region IV
345 Courtland Street, NE
Atlanta, GA 30365

Dear Ms. ~~Tolman~~: Jean

This office, functioning as the state planning and development clearinghouse, pursuant to your request, has reviewed and coordinated a state agency review of the Draft Environmental Impact Statements for Mississippi Chemical Corporation, Phosphate Mine, Hardee County, SAI #FL8109010351E and Mobil Chemical Company, South Fort Meade Phosphate Mine, Polk County, SAI #FL8109230441E. Attached for your consideration are comments and information regarding these proposals from the Departments of Environmental Regulation, State, Veterans and Community Affairs and the Florida Game and Fresh Water Fish Commission. These proposals will have significant impact on Florida's natural and economic resources, therefore, we recommend that extreme care and caution be exercised in your review process. The affected agencies, in addition to expressing a variety of technical concerns, have suggested alternative mining proposals and activities which should be considered by your agency in the granting of any permits.

W-27

The State of Florida welcomes the opportunity to work with your agency and the companies in resolving our concerns. To meet your November 13 deadline and in the interest of time, I have requested that the Department of Environmental Regulation forward directly to you their comments on the Mississippi Chemical Corporation's phosphate mine impact statement.

Sincerely,

Walt

Walter O. Kolb
Sr. Governmental Analyst

WOK:dmc

Enclosures

cc: Steve Fox
F. G. Banks
George Percy

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STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

BOB GRAHAM, GOVERNOR
JOAN M. HEGGEN, SECRETARY

OFFICE OF THE
SECRETARY

December 3, 1980

Mr. Charles Lee
Florida Audubon Society
Post Office Drawer 7
Maitland, Florida 32751

Re: Mississippi Chemical Company Appeal

Dear Mr. Lee:

My staff has reviewed your letter of November 4, 1980, concerning the status of the Mississippi Chemical Company (MCC) appeal. They have evaluated the information that you supplied concerning the Enviro-Clear technique, and have some unanswered technical questions at this point.

For example, the pilot studies were performed with clay waste in Polk County but not with those from Hardee County. According to MCC's consultants, the clays in MCC's ore body have slower settling properties than those in Polk because of the greater percentage of attapulgite. The test data is, therefore, not directly applicable to this project. Dr. Bromwell, who directed the testing of the Enviro-Clear technology for the M.S. French Company, has stated that there would be little benefit from utilizing this technology on the MCC tract.

W-28

Since a difference in opinion apparently exists among the experts on the best technology for disposing of MCC's clay waste, we would be happy to meet with you, representatives of the M.S. French Company, MCC's consultants, and Department of Natural Resources' (DNR) staff to discuss and evaluate any technological alternative which might reduce MCC's proposed above-ground clay waste ponds. Additionally, I believe we should invite the other parties to the appeal to this meeting, i.e., Hardee County, Central Florida Regional Planning Council, and overlook Groves.

We appreciate your concern about a possible conflict between the draft settlement and DNR's new mining reclamation rules concerning wetlands and lake designs. In our opinion, the

[illegible] Executive Center Circle, East, Tallahassee, Florida 32301 (904) 488-8466

present draft stipulation is compatible with DNR rules. The draft agreement with MCC contains the provision for the restoration of 85% or more of the disturbed wetlands. Since the adoption of DNR's new rules, MCC has agreed to language which makes it clear that DNR may require more wetlands restoration. In addition, we feel that the lake design requirements in the draft stipulation are general in nature and are compatible with the more specific standards of DNR.

If you call Mr. Jorge Southworth in the Bureau of Land and Water Management, he will be happy to arrange a meeting to discuss the Enviro-Clear technology and your concern about the potential conflicts between the proposed settlement and the new DNR standard in greater detail. He can be reached at (904) 488-4925.

Sincerely,

Joan M. Heggen

Joan M. Heggen

JMH/JS/pcb

cc: Mr. Lester Abringer, Ofc. of the Treasurer
Ms. Carole Barice, Ofc. of Secretary George Firestone
Mr. Charles Blair, Ofc. of Comm. of Agriculture
Mr. Lee Chotas
Dr. Elton Gissendanner
Ms. Casey Gluckman
Mr. Brad Hartman, Fl. Game & Fresh Commission
Mr. Mark Ives, Ofc. of the Comptroller
Ms. Judy Kavanaugh
✓Mr. Walter Kolb, Ofc. of the Governor
Ms. Nancy Linnan, Deputy Attorney General
Mr. Frank Mirabella, Ofc. of Comm. of Education
Mr. Jere Moore, Ofc. of the Governor
Mr. Roger Sims, Holland and Knight
Mr. Estus Whitfield, Ofc. of the Governor
Mr. Ken Woodburn, Ofc. of the Governor

FLORIDA GAME AND FRESH WATER FISH COMMISSION

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F. G. BANKS, Assistant Executive Director

FARRIS BRYANT BUILDING
620 South Meridian Street
Tallahassee, Florida 32301

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NOV 6 1981
[illegible]

November 3, 1981

Mr. Walt Kolb
Office of The Governor
The Capitol
Tallahassee, FL 32301

Re: Mississippi Chemical Corp.
Phosphate mine, Hardee County
SAI FL 8109010351E

Dear Mr. Kolb:

The Office of Environmental Services of the Florida Game and Fresh Water Fish Commission has reviewed the Draft Environmental Impact Statement for Mississippi Chemical Corporation (MMC). The following comments are submitted to reduce impacts on fish and wildlife resources.

Mississippi Chemical Corporation proposes a phosphate mine, beneficiation plant, and rock drying facility in Hardee County on a 14,850 acre site of which approximately 9,000 acres are deemed minable. Upland vegetation communities consist of xeric hammock, mesic hammock, palmetto range/pine flatwoods, improved pasture and ruderal lands. Wetlands on the property consist of 2,490 acres of freshwater marsh and 490 acres of hardwood swamp scattered throughout the site and associated with stream floodplains and depressions. The site is drained by Brushy, Horse, Troublesome, Oak, Lettis, and Hickory creeks. Portions of the floodplains of these creeks have been altered by prior clearing and channel re-routing.

Various development alternatives for the site were evaluated in the EIS primarily with regard to minimizing loss of phosphate resource, water pumping, ore and waste transportation, road and utility construction, and destruction of environmentally sensitive areas. Under the U. S. Environmental Protection Agency's preferred alternative and recommended action, the major environmental effects include:

1. Loss of approximately 69 percent of the native upland vegetation, and 72 percent of the existing native soils. After mining, the overall reclamation plan is designed to replace native plant communities with improved pasture.

2. A total of approximately 2,307 acres of swamps and freshwater marsh would be mined and about 440 acres preserved. An additional 233 acres of wetlands could be mined if MCC successfully demonstrates creation of wetlands onsite to an equivalent functional capacity. The mining and reclamation plan would result in post project wetlands consisting of 425 acres of swamps and 2,025 acres of freshwater marsh which is 87 percent and 81 percent of the present acreage respectively.

3. Approximately 4 miles of streambeds with average annual flows greater than 5 cfs would be mined or used for waste disposal. Additional ephemeral streams on the site would be displaced. Aquatic areas would be stressed through changes in temperature, erosion, water table drawdown and addition of chemicals and other pollutants. Streambed reclamation would result in replacing predominantly channelized creeks with meandering, vegetated channels. Viable stream habitat would be maintained throughout the mine life by limiting mining activities to one side of a stream at a time and by creating a biologically functional alternate streambed sufficiently in advance of mining the existing streambed. Mining would create approximately 300 acres of lakes on the site which is a significant expansion of the aquatic environment.

In order to minimize impacts to fish and wildlife resources from stripmining, we recommend the following:

1. Identify, evaluate, and preserve from mining and waste disposal activities the major functionally significant wetlands on the site. W-29

2. Conduct a wetlands restoration program early in the mine life to demonstrate the ability to reclaim herbaceous freshwater marsh, wooded wetlands and streams. The demonstration site should be located on stripmined land and performance standards set to guide final evaluation of the effort. Future permits to mine wetlands should be dependent on the success of the demonstration effort. W-30

3. Replace all mined wetlands on an acre for acre basis and alter the reclamation plan to include re-establishment of at least 10 percent of the uplands in mixed forests, consisting of a variety of conifers and hardwoods, according to the rules of the Florida Department of Natural Resources, Chapter 16C-16. W-31

Please contact us if we can be of further assistance.

Sincerely,

F. G. Banks
Assistant Executive Director

E202/bl/2/19-20
tk
ENV 2-3-2

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OCT 13 1981

FLORIDA DEPARTMENT OF STATE
George Firestone
Secretary of State

October 7, 1981

In reply refer to:
Louis Tesar
Historic Sites Specialist
(904) 487-2333

Walt Kolb
Governmental Analyst
Office of the Governor
The Capitol
Tallahassee, Florida 32301

Re: September 15, 1981 Memorandum and Attachments
SAI #FL8109010351E
Draft Environmental Impact Statement
Mississippi Chemical Corporation
Hardee County Phosphate Mine
Hardee County, Florida

Dear Mr. Kolb:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Procedures for the Protection of Historic and Cultural Properties"), we have reviewed the above referenced project for possible impact to archaeological and historical sites or properties listed, or eligible for listing, in the National Register of Historic Places. The authorities for these procedures are the National Historic Preservation Act of 1966 (Public Law 89-665) as amended by P.L. 91-243, P.L. 93-54, P.L. 94-422, P.L. 94-458, and P.L. 96-515 and Presidential Executive Order 11593 ("Protection and Enhancement of the Cultural Environment").

We previously reviewed this project on February 11, 1981 (See attachement) and determined that only one potentially significant archaeological site (8Hr5) would be affected by the proposed project. Because of the extensive alteration of the surrounding environment, we recommend Data Recovery rather than *in situ* preservation.

Environmental Protection Agency subsequently sought and received a determination from the Keeper of the Register that site 8Hr5 is eligible for listing on the National Register of Historic Places. Furthermore, Environmental Protection Agency has consulted with this agency and the Advisory Council on Historic Preservation (see attachment) and determined that issuance of the NPDES permit would not be in conflict with historic preservation concerns if Data Recovery at 8Hr5 is required prior to initiating mining or other land-disturbing activities in the site area, and if the proposed Data Recovery Plan is acceptable to this agency and the Advisory Council on Historic Preservation. We, therefore, have no further comments at this time for the proposed project. W-32

If you have any questions about our comments, please do not hesitate to contact this office.

On behalf of Secretary of State George Firestone, and the staff of the Bureau of Historic Sites and Properties, I would like to thank you for your interest and cooperation in preserving Florida's historic resources.

Sincerely,

George W. Percy

George W. Percy
Deputy State Historic
Preservation Officer

GWP:Tsds

Enclosures

Secretary of State

STATE OF FLORIDA
THE CAPITOL
TALLAHASSEE 32304
(904) 488-3680

GEORGE FIRESTONE
SECRETARY OF STATE

February 11, 1981

In reply refer to:

Mr. Louis Tesar
Historic Sites Specialist
(904) 487-2333

Mr. Robert B. Howard
Chief, EIS Preparation Section
United States Environmental Protection Agency
Region Four
345 Courtland Street
Atlanta, Georgia 30308

Re: 4SA-EIS
Cultural Resource Assessment Review Request
"3.5.3 Historic and Archaeological Resource"
from Draft EIS, Mississippi Chemical Corporation (MCC)
Hardee County Phosphate Mine

Dear Mr. Howard:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Procedures for the Protection of Historic and Cultural Properties"), we have reviewed the above referenced project for possible impact to archaeological and historical sites or properties listed, or eligible for listing, in the National Register of Historic Places. The authorities for these procedures are the National Historic Preservation Act of 1966 (Public Law 89-665) as amended by P.L. 91-243, P.L. 93-54, P.L. 94-422, P.L. 94-458, and P.L. 96-515 and Presidential Executive Order 11593 ("Protection and Enhancement of the Cultural Environment").

We have reviewed the above document and the information contained in the Florida Master Site File. We concur with the evaluation of the cultural resources presented in that document.

None of the three 20th century sites is historically significant, and three of the four aboriginal sites are so severely disturbed and eroded by 20th century land clearing and agricultural activities that they fail to satisfy the criteria for significance used in determining eligibility for listing on the National Register of Historic Places. Neither preservation nor salvage excavation or historic documentation is recommended for any of the above sites.

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On the other hand, aboriginal site #1, which is recorded in the Florida Master Site File as site 8Hr5 and located in the NW¼ of the SE¼ of the SW¼ of Sec. 30, T34S-R24E, is potentially significant as it represents one of the northernmost sites of the Okeechobee Basin peoples. Since the upper levels of the site have been disturbed through land clearance activities some of the categories of data contained within the site have been lost. However, subsurface testing revealed that "...large portions (of this site) are still intact" (Draft EIS, p. 19-6). In view of this information and the site's significance as one of the few Okeechobee Basin type sites recorded in this area, it is deemed potentially eligible for listing on the *National Register of Historic Places*. Therefore, archaeological salvage excavation is recommended to record the data contained within this site. In view of the extensive alteration of the surrounding environment, site preservation is not recommended.

If you have any questions about our comments, please do not hesitate to contact this office.

On behalf of the Secretary of State, George Firestone, and the staff of the Bureau of Historic Sites and Properties, I would like to thank you for your interest and cooperation in preserving Florida's historic resources.

Sincerely,

George W. Percy

George W. Percy
Deputy State Historic
Preservation Officer

GWP:Teh

Advisory
Council On
Historic
Preservation

1522 K Street, NW
Washington, DC 20005

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SEP 28 1981
CULTURAL RESOURCE
MANAGEMENT TEAM

September 18, 1981

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DIVISION OF ARCHIVES
History & Records
Management

Ms. Rebecca W. Hanmer
Regional Administrator, Region IV
U.S. Environmental Protection Agency
345 Courtland Street
Atlanta, GA 30365

Dear Ms. Hanmer:

On September 8, 1981, the Council received a letter and supporting draft environmental impact statement from Mr. Robert B. Howard, Chief, EIS Preparation Section, concerning issuance of a National Pollutant Discharge Elimination System (NPDES) permit for a proposed phosphate mine in Hardee County, Florida. It is our understanding that EPA, in consultation with the Florida State Historic Preservation Officer (SHPO), has determined that issuance of the permit will have no adverse effect on Archeological site 8Hr5 (Aboriginal Site #1), a property eligible for the National Register of Historic Places. This determination is based on EPA's intention to condition the permit on archeological data recovery at the site prior to mining or other land-disturbing activities.

Under the Council's regulations (36 CFR Part 800), the Executive Director will not object to your determination of no adverse effect if you will agree to the following condition:

> A data recovery plan, including a detailed research design, for archeological investigations at archeological site 8Hr5 will be submitted to the Florida SHPO and the Council for review prior to implementation. If neither the SHPO nor the Council objects within 15 days after receipt, EPA will ensure that the proposed data recovery plan is implemented prior to mining or other land-disturbing activities. If either party objects, EPA will consult with the SHPO, the Council, and the Mississippi Chemical Corporation in order to resolve the objections.

If you agree to this condition, please sign on the concurrence line below and return this letter to us. This will then be incorporated into your determination, and the Executive Director will concur in your determination of no adverse effect.

In accordance with Section 800.8 of the Council's regulations, a copy of your determination of no adverse effect, along with supporting documentation and this conditional concurrence, should be included in the final environmental impact statement prepared for this undertaking in compliance with the National Environmental Policy Act. Is should also be included in your records as evidence of your compliance with Section 106 of the National Historic Preservation Act and the Council's regulations.

Thank you for your cooperation. If you have any questions, please contact Ronald Anzalone, our Staff Archeologist, at FTS 254-3495.

Sincerely,

Jordan E. Tannenbaum

Jordan E. Tannenbaum
Chief, Eastern Division of
Project Review

I concur:

(date)
U.S. Environmental Protection Agency, Region IV

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 13, 1981

Mr. Walt Kolb
Senior Governmental Analyst
Office of Planning and Budgeting
Office of the Governor
415 Carlton Building
Tallahassee, Florida 32301

Dear Walt:

Re: Draft Environmental Impact Statement, Mississippi Chemical Corporation, Hardee County Phosphate Mine, Hardee County, Florida, SAI No. FL8109010351E

The draft environmental document was prepared pursuant to EPA's determination that the issuance of a new source National Pollution Discharge Elimination System (NPDES) permit to Mississippi Chemical Corporation would constitute a major federal action significantly impacting the quality of the environment. The document has been prepared in accordance with NEPA requirements. The mining plan has also been subject to a DRI review under Chapter 380, Florida Statutes, and approval by the Governor and Cabinet sitting as the Land and Water Adjudicatory Commission.

According to the report, Mississippi Chemical plans to produce 3 million tons of phosphate ore annually for a period of 31.5 years. Approximately 1 million tons of dry phosphate rock is required for fertilizer production at their Pascagoula Mississippi plant. The remaining 2 million tons of annual mine production will be sold to other domestic or foreign markets.

The Hardee County Mine site encompasses 14,850 acres (23.2 miles^2) of which the applicant has determined that 9,000 acres are mineable under existing economic, environmental and technological limitations. The mining and processing plan is typical of the Central Florida Phosphate Industry consisting of dragline mining, slurry matrix transport, conventional matrix processing and surface water discharge. The Mississippi Chemical plant, however, does have two exceptions from the normal processing plan that we have seen in recent EIS's. They include a surface water impoundment to reduce groundwater withdrawals and rock drying facilities. The Department has recently completed a review of the Prevention of Significant Deterioration (PSD) application for the rock drying facilities. The application has been approved with conditions and forwarded to EPA.

As proposed by the applicant approximately 2,540 acres of wetlands (freshwater swamps and marshes), 4 miles of 5 cfs streambeds and other seasonally flowing streams will be mined, altered or disturbed by mining or processing operations. Approximately 440 acres of swamps and marshes are scheduled for preservations, however, an additional 223 acres of wetlands will be mined if EPA determines at some future date that Mississippi Chemical can successfully demonstrate the ability to re-create wetlands on-site to an equivalent functional capacity. The latter requirement appears to be perfunctory in that other wetlands and streambeds are scheduled for mining without any assurance that they can be restored. In fact, all attempts to date in wetland reclamation have been unable to restore the premining groundwater tables, soil conditions and drainage patterns necessary to wetland creation and maintenance. We are enclosing comments by our Biological Section which address this issue further. W-33

Many of the wetlands and streambeds scheduled for mining or other alterations are within the Department's dredge and fill jurisdiction pursuant to Chapters 253 and 403, Florida Statutes. Permits would be required prior to undertaking any construction activities in areas determined to be waters of the State. Applications for permits to mine such areas are routinely subjected to biological/ecological appraisals and a hydrographic review. We, therefore, suggest that it is premature to approve mining activities in areas under the Department's jurisdiction. Furthermore, based on past agency decisions concerning mining in areas exhibiting good water quality and providing fish and wildlife habitat, an application can be expected to receive a negative assessment. Recently, members of my staff met with representatives of Mississippi Chemical in Tallahassee to discuss these issues. W-34

Our Bureau of Water Analysis indicates that the water quality assessment for the proposed mine is not adequate to address their concerns. No on-site water quality data collection program was initiated nor were all pertinent parameters considered. All data used to analyse the proposed receiving water were historical and from different streams. In the case of Horse Creek, the data were collected in a different county. Therefore, the information will have to be supplemented by a specific data collection program, the design of which should be approved by this Department. W-35

The draft NPDES permit was also reviewed by our Water Quality Analysis Section with the conclusion that no decision could be made regarding the adequacy of the draft permit effluent limits. They could not recommend certification of the draft permit, until such time as data from the collection program mentioned above is completed and submitted by the applicant. Furthermore, as indicated in the document analysis, W-36 several water quality criteria are being violated in the receiving streams. Before we can develop any effluent limits for pollutants that might further contribute to these violations, some form of relief from the Department rules must be entertained by the applicant.

Our Groundwater Section reports that not only were there no well logs included in the subject document, but no groundwater supplement appeared at all.[1] The apparent reason for the lack of groundwater data is the fact that Mississippi Chemical has already obtained its consumptive use permit from the Southwest Florida Water Management District. Nevertheless, the following concerns for groundwater impacts are submitted and will hopefully be addressed in the final document. W-37

Mississippi Chemical's mine would comprise 14,850 acres, and its CUPs total 17.4 mgd, which exceed even SWFWMD's 1000 gal/acre/day rule - at least for the first 3 years while mining makeup water would be derived entirely from groundwater sources. After 3 years, 30% of makeup would be derived from the Brushy Creek surface water reservoir, while 12.3 mgd would be made up from groundwater sources - for 32 years.[2] W-38

Table 3.2-7 lists the following transmissibility values in gpd/ft: Suwannee - 1.7 x 10^5; Ocala - 8.1 x 10^5; and Ocala and Avon Park - 1.25 x 10^6 (which together total 1.42 x 10^6 gpd/ft for the "Lower Floridan"), but there is no suggestion of how these values might have been derived. Certainly type-curve derivations from pump test data could have been interpreted anywhere within the broad range of 10^5 to 10^7 gpd/ft as the drawdown/time curves were necessarily almost flat. W-39

Figure 3.2-10 predicts a maximum drawdown at the nearest Mississippi Chemical property line just over 3'. That prediction is evidently based on a projected pumping rate of 11.5 mgd. However, according to that projection, even at 17.4 mgd, SWFWMD's 1,3,5 rule would be handily met, based on the claimed T of 1.4 x 10^6 gpd/ft; one can only hope so, at any rate, based on the paucity of data presented. W-40

Figure 3.2-8 and 3.2-11 and Table 3.2-9 reveal that some 100 wells exist already on Mississippi Chemical's property. How many of these wells would be properly plugged during mining activities, from bottom to top with neat grout cement? How many would simply "disappear"? W-41

Consider just EPA's statement that, ". . . lowering of the potentiometric surface . . . would be extremely small in comparison to the large regional fluctuation .". Said regional fluctuation is caused by hundreds of individual enterprising farmers, ranchers, and citrus growers whose groundwater withdrawals are not continuous and are thus rendered highly visible upon a background of near zero resource use for the rest of the hydrologic year. Not so readily seen is the mammath 80' decline in the W-42 regional piezometric surface, which has developed since the 1940's when turbine pumps began to appear, caused by all the individual continuous groundwater withdrawals such as Mississippi Chemical's proposed 17.4 mgd. While EPA points its finger at the highly visible 10 to 30' regional wave in head, which commences in early spring and culminates in May or June, it ignores completely the 80' permanent regional head decline, which can scarcely be called, ". . . extremely small in comparison. . .".

Additionally, the EIS nor the consumptive use permit assess the enenvironmental impacts of impounding Brushy Creek. W-43

Sincerely,

Stephen J. Fox, Director
Division of Environmental
Permitting

SJF/jb

Enclosure

cc: Jean Tolman/EPA
Bill Hennessey/Tampa
Bill Kutash/Tampa
Mickey Bryant
Steve Palmer
Rodney DeHan
Andy Feinstein

FOOT NOTES

1. Well logs are crucial in pump test data analysis, very often providing more information than the pump test itself.

2. Local recharging of the Floridan aquifer would be permanently diminished, however, since 15% of the 14,850 acres would be covered by "impermeable" slimes disposal areas, half of which would be open ponds. What little recharge might take place would constitute water of elevated radiation content, since even fish and birds living in and around existing slime ponds have Ra^{226} contents 4 times that of controls.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices
And/Or To Other Than The Addressee
To: ______________ Loctn.: ______________
To: ______________ Loctn.: ______________
To: ______________ Loctn.: ______________
From: ______________ Date: ______________

TO: Mr. John Outland, Intergovernmental Programs

THROUGH: Dr. G. J. Thabaraj, Chief, BWA
Dr. Landon T. Ross, Chief Biologist
Administrator of Biological Section

FROM: LAO Lawrence A. Olsen, Biological Section

DATE: October 21, 1981

SUBJECT: Projects - Dredge and Fill - Review of EIS for Planned Mississippi Chemical Corporation Hardee County Phosphate Mining

As per your request, I have reviewed the documents which pertain to the mining of phosphate which is proposed by Mississippi Chemical Corporation for a site in Hardee County. Though only 72% of the site is scheduled to be mined (9,000 acres out of a 14,850 acre total), I am concerned about two points: mining in the wetlands and the method of filling in the waste disposal areas (10,722 acres total).

The company proposes to preserve three areas of wetlands — a 120 acre swamp, 113 acres of marsh and an additional 440 acres of wetland area — out of a total of about 3,000 acres of wetlands on the site. In addition, over four miles of streams will be mined out, including the two major streams on the property, Brushy Creek and Oak Creek. My concern, beyond the outright destruction of these waterways and wetland areas, is with the proposed restoration. The document states that the restored wetlands would have a greater functional value than at present and that streambed reclamation would result in replacing channelized ditches with meandering, vegetated streams. As is usually the case in these documents, one is always given the impression that, aside from those acres to be preserved outright, the wetlands onsite are in sad shape. Though we are not dealing with a pristine area here, (there are orange groves, areas which have been ditched, and otherwise modified), data submitted by the company are indicative of sound functional wetland areas. Species diversities from sampling taken in the two aforementioned creeks range from 2.9 to 3.7, very good numbers as those indices go (Table II-16, Tech. Supp. Doc.). Likewise, the fish populations of both creeks appear to be well-balanced and healthy, with 26 spp. and 19 spp. having been identified in Brushy Creek and Oak Creek, respectively. While channelization within several of the swamps and marshes has resulted in isolation of several of the wetlands from the rest of the system during dry periods, the wetlands system as delineated (A through E, pp. II-69-II-71) appears to function well, in my opinion.

W-44

It is this question of function which worries me here. The EPA is apparently willing to go along with the destruction of large areas of wetland because they believe the claim that the wetlands can be restored and will actually function better in that restored state than at present. That the EPA has some hesitation, however, is manifested in the stipulation that the company actually restore a 90 acre tract of mined-out wetland to the satisfaction of federal personnel before that agency will approve another 233 acres of wetlands which the company wants to mine. This area must be held in escrow until the 90 acre demonstration project is satisfactorily completed. W-45

My second concern is that the disposal of waste sediments will not result in a desirable substrate after the mining is finished and the land is reclaimed. That is, the company indicates that there is not enough sand in the material on the site to mix with clay tailings in the disposal material. The EPA is recommending 8:1 sand:clay caps on much of the area. As noted in the report, this is not exceptionally good for agricultural use but would allow for more use than just clay alone as is usually the case in such mining operations. As it is, the plans call for some 3,700 reclaimed acres to be capped only in clay. Another benefit of sand:clay mixtures is that the amount of radioactivity available to the surface is lessened by dilution with the sand. Obviously, less sand will mean more radioactivity. Straight clay caps of course offer no diminution in radioactivity. One might consider a 4:1 sand:clay mixture which might then cover the whole site. W-46

In conclusion, I would hesitate to approve the plan as it is recommended by the EPA. Rather, I would recommend that another look be given to saving more of the wetlands and streams onsite. As the EPA correctly points out, the restoration of wetlands is highly experimental. What we really have here would be a 40 year experiment. Secondly, I would recommend that further consideration be given to a lower sand:clay ratio in the proposed caps in the reclaimed areas in an effort to eliminate pure clay caps. W-47

LAO/11

3.2 RESPONSES TO WRITTEN COMMENTS

Response W-1

The comment is acknowledged. To ensure that onsite paleontological resources may be recovered, MCC will allow qualified paleontologists reasonable opportunity to salvage specimens and information from the site. The paleontologists must be verified by the Florida State Museum (FSM) and arrangements made with MCC through the FSM. Qualified individuals will be allowed onsite subject to MCC's requirements for safety, liability, and visitor accountability and on a non-mining interference basis.

If a specimen is uncovered during mining operations, MCC will directly notify the FSM.

Response W-2

Comment noted. See letter dated December 2, 1981 from USEPA to the Advisory Council (Section 6.3).

Response W-3

The analysis of noise impacts presented in the DEIS considers the worst case effects of mining at 500 feet from the property boundary. Only a few noise-sensitive land uses (residences and the New Zion Church) are located near the MCC property. Noise impacts were computed at these locations by combining ambient (baseline) sound level measurements with predicted sound levels of mining and processing equipment.

Mining activities would have the greatest effect on sound levels. The "day/night" sound level at a residence 500 feet from mining activity (the closest MCC could mine) would be 59 dB. This level slightly exceeds levels (55 dB) identified by USEPA as requisite to protect public health and welfare, but would not exceed the USEPA's near-term goal of reducing community noise below an L_{dn} of 65 dB. Furthermore, such a level would be experienced only in a very limited situation as most residences would be much further than 500 feet from mining activity most of the time. The worst case increases in sound level at the four locations monitored are as follows:

	Baseline Day/Night Sound Level (dB)	Highest Future Day/Night Sound Level (dB)
1. Ona	64.7	65.7
2. East Boundary	53.3	60
3. Vandolah Road	54.2	60
4. New Zion Church	61.6	63.5

The above effects were calculated without any reductions due to mitigative measures.

MCC will employ buildings and stockpiled overburden as buffers between noise sensitive locations and mining operations wherever practical. Vehicle exhaust systems will be equipped with stock mufflers, which will be inspected and maintained in a condition which meets all applicable noise standards. Every reasonable effort will be made to mitigate noise effects on the community. For example, transient traffic and other non-essential operations will be limited to daylight hours whenever possible (dragline operations must continue 24 hours a day, however). MCC will assign a company liaison to hear and respond to complaints from the community. Finally, all vehicles and equipment purchased for use on the project will, if other specifications are equivalent, be the quietest readily available.

Response W-4

The loss of natural vegetation which results from clearing and mining the MCC site will have a more significant impact on the terrestrial ecology of the site than will the loss of agriculturally managed lands. Replacement and improvement of some of the wildlife values provided by the natural communities would be obtained through the establishment of pine flatwoods, hardwoods, hammocks, wetlands, and pastures. As MCC is limited to planting native species by the Hardee

County Development Order (except for agricultural areas), it is not expected that eucalyptus or slash pine plantations will be established. If these species are deemed appropriate and if such plantations appear to be a promising choice of land use, consideration will be given to their establishment.

Response W-5

The comment is acknowledged. MCC will contact the State Forester for assistance on selection of tree species and other pertinent aspects of the reclamation plan.

Response W-6

The Southwest Florida Water Management District (SWFWMD) exercises regulatory jurisdiction related to consumptive use of water over substantially all of the Florida phosphate mining and chemical industry (both existing and proposed), including all of Hillsborough, Manatee, Sarasota, Hardee, and DeSoto Counties; substantially all of Polk County; and a large portion of Charlotte County. The applicant for a SWFWMD Consumptive Use Permit carries the burden of demonstrating that the intended use will be reasonable and beneficial, consistent with the public interest, and not interfere with any legal use of water existing at the time of application. Issuance of the permit will be denied if the intended withdrawal would cause any of the following results:

- Violation of minimum regulatory levels established for the flow of a stream or other watercourse, for the potentiometric surface, or for surface water;
- Saltwater encroachment; or
- Lowering of the water table so that the lake stages or vegetation will be adversely and significantly affected on lands other than those owned, leased, or otherwise controlled by the applicant.

The Consumptive Use Permit will also be denied if the amount of water consumptively used will exceed the "water crop" on lands owned, leased, or otherwise controlled by the applicant. The assumed size of the water crop throughout the District is 1000 gallons per acre per day. The actual water crop for a specific area may be significantly larger or smaller than this amount. The actual amount of water crop for a particular area depends upon rainfall and evapotranspiration rates, which vary from area to area within the district.

The proposed withdrawal of water must not reduce the rate of flow of a stream or other water course by more than 5 percent at the time and point of withdrawal. It must not cause the level of the potentiometric surface under lands not owned, leased, or otherwise controlled by the applicant to be lowered by more than 5 feet, nor cause the level of the water table of such lands to be lowered by more than 3 feet, nor cause the level of the surface of water in any lake or other impoundment to be lowered by more than 1 foot unless the lake or impoundment is wholly owned, leased, or otherwise controlled by the applicant. Finally, the withdrawal must not cause the potentiometric surface to be lowered below sea level.

For good cause shown, SWFWMD may grant exceptions to criteria listed above, when, after consideration of all data presented including economic information, it finds that an exception is consistent with the public interest.

In addition to permitting withdrawals of water, SWFWMD may also approve "recharge wells" which drain water from upper strata (i.e., water table or overburden) to lower formations. Recharge wells, as a water management tool, may be required as a condition of consumptive use permits.

MCC has been issued a Consumptive Use Permit by SWFWMD (see Appendix D of the Draft EIS). In issuing this permit, SWFWMD found that all of the required criteria were met except that limiting stream flow reductions to no more than 5 percent. However, SWFWMD found that such withdrawal "is consistent with the public interest by making efficient use of available surface water sources, while requiring the applicant to maintain the monthly minimum rates of flow specified."

Under the provisions of the Consumptive Use Permit, MCC will monitor the levels and quality of the various aquifers present at the site. Continuous measures of water level will be obtained from recorders installed in nine wells - five from the lower Floridan aquifer, two from the upper Floridan aquifer, and two from the surficial or shallow aquifer. Data collected will be reported on a quarterly basis. The level of fresh/mineralized water interface will also be monitored. Monthly tests of water quality will be performed on samples pumped from the fresh/mineralized water monitor well and from the five production wells in the lower Floridan aquifer. Results will be submitted to SWFWMD annually, to include the following constituents:

Calcium
Potassium
Chloride
Specific Conductance
Radium 226
Magnesium
Bicarbonate
Nitrate
Gross Alpha Radiation
Total Phosphate
Sodium
Sulfate
Total Dissolved Solids

Finally, MCC will install propeller-type flow meters with mechanically or magnetically driven totalizing registers on withdrawal wells and will submit this information quarterly to SWFWMD.

The Brushy Creek stream flow rate will be monitored continuously at three locations (including extrance and exit from the MCC property). Records will be provided to SWFWMD annually. The purpose of this monitoring is to verify that the schedule of average monthly minimum flows is maintained in Brushy Creek.

Response W-7

No Response Required

Response W-8

The USEPA recognizes that discharge of wastewater might occur in other than the rainy season. Discharge during extreme storm and rainfall events (greater than the 10-year, 24-hour event) is permitted under the NPDES program. However, to ensure water quality criteria in the receiving stream are not violated, discharge other than during 10-year, 24-hour event must not occur when the receiving stream has a flow less than 1.4 times the effluent flow. MCC should also pursue variance proceedings with the FDER for specific conductance.

Response W-9

No Response Required

Response W-10

No Response Required

Response W-11

Refer to Response W-8

Response W-12

Comment and response noted. The USEPA appreciates the information MCC has provided on mine size options. The USEPA has no involvement in basic corporate decision making (such as mine size). The Draft EIS and Technical Support Document address the general considerations which resulted in MCC's selection of the proposed mine size.

Response W-13

The Florida DER limits to which this comment relate are specified in Chapter 17-3 (Water Quality Standards) of the Florida Administrative Code. These standards were established in accordance with Section 303 of the Clean Water Act. Federal regulations (40 CFR 122.62[d][1]) specify that an NPDES permit shall include conditions meeting water quality standards and state requirements in addition to, or more stringent than, promulgated effluent limitations or guidelines that are necessary to achieve water quality standards under Section 303 of the

Clean Water Act. Consequently, those appropriate state water quality criteria have been incorporated in the draft NPDES permit.

Response W-14

The NEPA conditions have been included in the NPDES permit in accordance with provisions establishing management and regulations of the NPDES program. Section 40 CFR 122.66 (e)(2)(ii) of the Code of Federal Regulations establishes that a new source NPDES permit be issued, conditioned, or denied following a complete evaluation of any significant beneficial and adverse environmental impacts and a review of the recommendations contained in the EIS. These NEPA conditions to the NPDES permit were established based on review of the EIS and they identify measures to be taken to prevent or minimize any adverse environmental impact.

Under provisions of 40 CFR 122.62(d)(9), a new source NPDES permit shall incorporate any requirements, conditions, or limitations under NEPA when USEPA is the issuing authority.

Response W-15

Under provisions of the Southwest Florida Water Management District's consumptive use permit (Appendix D of the Draft EIS), MCC is to obtain written consent from all parties controlling lands within 450 feet (area of projected impact) of dewatering activities. Observation wells are also required for the purpose of providing an early indication of changes in the conditions of the water resources in the area. The consumptive use permit has been included in Section 6.2 of the Final EIS as have clarifying information (see also Response W-6).

Response W-16

Discussions with Hardee County Health Department officials indicate that there are no known vector-borne disease patterns in the area and no vector management plans required for a project such as the proposed MCC mine.

Response W-17

No blasting will be conducted during construction of the project or operation of the mine.

Response W-18

In the spring of 1980, the State of Florida established a phosphate-related Task Force to identify problems resulting from construction of homes on phosphate mined and reclaimed lands and to recommend appropriate solutions. One of the problems identified was the potential for high levels of radon and radon progeny accumulating in such homes. As a result of its investigations, which are still underway, the Task Force is expected to produce recommended State of Florida guidelines for radon exposure levels in homes built on reclaimed lands.

Meanwhile, in December of 1980, the USEPA initiated a study entitled, "Program for Control of Indoor Radon Levels - Common Building Practices and Soil Gas Entry Routes in Central Florida." This study, which is scheduled to take place over a 12- to 15-month period, is aimed at determining appropriate remedial measures for homes already constructed on reclaimed lands. The study will also address recommended building practices for the construction of new homes on reclaimed lands.

The results of EPA's study will be made available to the State of Florida, and it is expected that the Task Force will use the information in its development of state building codes for construction of homes on reclaimed lands. It is also fully anticipated that Florida's guidelines for radon exposure levels and building codes will be completed and adopted well in advance of the time that the MCC site would be considered for residential development. In light of these facts, EPA does not consider it necessary or appropriate to condition the MCC Final NPDES permit to require the recording of deed restrictions for the mine property.

Response W-19

In 1978, the USEPA published the Final EIS for the Central Florida Phosphate Industry. This Areawide EIS established the broad, comprehensive NEPA assessment upon which subsequent, site-specific phosphate EISs were to be based. This practice is consistent with the CEQ regulations and the concept of tiering.

The Areawide EIS presents a cumulative impact assessment of the phosphate industry on the terrestrial ecology and human environment, as well as on other environmental disciplines, in the region. The Draft EIS for the MCC project presented analyses based on the Areawide EIS but adapted specifically for the Hardee County area. Hydrologic impacts were developed in greater detail and related to the proposed Farmland project because of the close physical proximity of the facilities and the potential for locally significant impact on surface and ground water quality.

The USEPA believes the MCC Draft EIS is adequate in content and consistent with the provisions of the CEQ regulations. The commentor is directed to the Areawide EIS for a comprehensive analysis of the central Florida phosphate district and associated impacts from mining operations.

Response W-20

The Hardee County Development Order (see Appendix C of the DEIS) specifies that a wetlands restoration pilot project be conducted early in the mine life (see Response W-43). A monitoring program designed to assure that ecologically functional wetlands are created is included in that pilot project. The USEPA supports this monitoring plan.

The development order stipulates that "the adequacy of any wetland creation experiments shall be based on progression of the experimental areas toward functional equivalency as compared to model areas." Six existing wetlands are specified as model areas. The determination of functional equivalency is to be determined by comparing fauna and flora, including diversity and density; hydroperiod and water storage per acre; and water quality enhancement. Specific field parameters to be monitored include vegetation composition, structural complexity, and productivity; soil characteristics, including organic matter, litter weight and litter depth; wildlife observations and quantitative measurements; water quality parameters (total suspended solids, phosphorus, pH, dissolved solids, and biochemical oxygen demand); and hydrology (level recorders, ground contour systems, rain gauges, pan evaporators, and piezometer wells). Specific sampling periods, durations (generally for one year in model wetlands and for the duration of the pilot project for experimental wetlands), and methods are specified. The reclamation methods within a particular pilot project will be considered successful only when the parameters exhibit a consistent progression toward "natural" values found in model systems. That is, a finding of functional equivalency does not require actual parameter equivalency.

The USEPA will base any future decision on whether to modify the NPDES permit to allow mining in preserved areas on the results of this experimental pilot project. Results will also be used to guide restoration of Category II wetlands on the site. It is USEPA's belief that the U.S. Fish and Wildlife Service will participate in establishing the above-described restoration monitoring plan.

Response W-21

Ninety (90) acres of wetlands are to be created in historically wet areas as part of an experimental restoration program. These 90 acres are in addition to the wetlands to be reclaimed as part of MCC's proposed project. The NEPA-related NPDES permit condition requires a restoration monitoring plan for these 90 acres and for all other wetlands to be restored on the site.

Response W-22

No Response Required

Response W-23

See Response W-19

Response W-24

Discussions of mitigation proposed by MCC, including those actions required by local and state agencies with jurisdiction over portions of the phosphate mine project, are presented in Section 3.0 of the Draft EIS. Additional mitigative measures imposed by USEPA are listed in the Executive Summary and/or appended to the draft NPDES permit. Below is a listing of all mitigation and/or monitoring requirements by each agency.

Hardee County, through the phosphate mine development order, dated March 26, 1981

1. Conditional preservation of three wetlands, totaling 233 acres, which can be considered for mining in the future only after successful wetlands restoration has been demonstrated.
2. Implementation of state-of-the-art waste disposal and land reclamation technology to minimize the above-grade storage of waste clays. During the life of the mine, MCC will investigate and implement feasible advances in technology to further reduce above-grade storage.
3. Lakes created by the project will be limited to 25 feet in depth and have extensive littoral zones to enhance water quality and fish and wildlife values.
4. Creek beds which are to be mined will be restored to a meandering condition with adjacent floodplains.
5. MCC will actively seek customers for wet phosphate rock so that the effects of rock drying are minimized.

6. Stream flows and drainage areas will be restored to their pre-mining quantity and quality following reclamation.

7. Install and operate three observation wells, one each in the surficial aquifer and in the upper and lower units of the Floridan aquifer, for the purpose of monitoring potentiometric surface and water quality.

8. Minimum water levels will be established for the shallow water table aquifer and the upper and lower units of the Floridan aquifer. MCC must reduce ground water withdrawal rates if water levels fall below the minimum.

9. MCC shall be responsible for, and take corrective action to place in operable condition, any well damaged due to the lowering of the water level by ground water withdrawal.

10. MCC shall be responsible for restoring to operable condition any shallow well rendered inoperable by matrix excavation.

11. An experimental wetlands restoration pilot project is to be conducted early in the mine life. Results will be monitored for effectiveness and "successful" restoration based on comparisons with model wetland areas.

12. MCC will create, or restore, 475 acres of hardwoods and 1975 acres of marsh using techniques developed in the pilot project or otherwise found to be appropriate.

13. Reclamation will employ only native species except for agricultural use. MCC will maintain vegetation on preserved areas and on reclaimed land.

14. Above grade waste disposal areas shall not exceed an average of 60 feet bove natural grade. Dams shall not exceed 65 feet and those approaching this height shall not be longer than 100 yards in any one place.

15. Above-grade clay storage areas shall not exceed 3,700 acres.

16. Streams and wetlands shall be restored to a (generally) specified configuration and shall not degrade water quality below state standards.

17. MCC will either provide for, or coordinate with other phosphate companies, the upgrading of certain roads to all-weather, land surfaces capable of supporting state maximum load and size standards.

18. MCC will deed 50 feet of additional right-of-way for public roads where MCC owns the adjacent land.

19. MCC shall notify the County Engineer whenever vehicles greater than 40,000 pounds will make more than four daily trips and will get a special county permit whenever a state permit is required.

20. MCC shall deed a minimum of 640 acres of land and lakes to the County for a public recreation park.

21. MCC shall abide by the SWFWMD Consumptive Use Permit.

Southwest Florida Water Management District, through the Consumptive Use Permit, dated May 3, 1977

1. MCC must cease withdrawal of water from Brushy Creek for diversion to the storage reservoir whenever the average monthly flow in Brushy Creek drops below an amount specified in a schedule of minimum monthly flow rates.

2. Establishes a maximum average annual and a maximum daily surface water withdrawal rate from Brushy Creek. A concurrent condition is to minimize withdrawals of ground water subject to the established maximum surface water limitations.

3. Establishes a maximum average annual and maximum daily combined withdrawal rate of surface and ground water.

4. MCC must continuously monitor the flows in Brushy Creek.

5. MCC must obtain the prior written consent of land owners within 450 feet of any proposed pit dewatering project.
6. MCC must install flow metering devices in MCC's production wells.
7. MCC must maintain continuous water level recorders on 5 wells in the lower unit of the Floridan aquifer, 2 wells in the upper unit, and 2 wells in the surface aquifer (see Response W-5).
8. A well will be constructed to monitor the fresh/mineralized water interface.
9. Water quality analyses will be conducted on the fresh/mineralized monitor well and on 5 wells in the lower unit of the Floridan aquifer.
10. A study of the feasibility of recharging water to the Floridan aquifer will be conducted.
11. Six (6) rain gages will be maintained witin the property boundaries.

Environmental Protection Agency, Region IV, through the NPDES Permit, contained in the FEIS

These conditions are listed in full in Section 6.1 and in the Executive Summary of this document.

In brief, they are:

1. Undertake a program to minimize harm to the eastern indigo snake.
2. Perform any excavation of archaeological sites in accordance with the guidance of the State Historic Preservation Officer.
3. Preserve from mining 233 acres of Category I wetlands.
4. Provide a 250 foot minimum mining setback around the periphery of wetlands. Mine only along one side of a stream at a time.

5. Conduct an experimental 90-acre wetland restoration program to demonstrate wetlands creation in historically wet areas; a protocol for this program shall be approved by USEPA prior to start of mining.

6. Implement sand/clay capping to minimize above-grade clay storage and restore topography to near original condition.

7. Implement its proposed project in complete accord with the proposed action described in the Draft EIS; deviations of a more stringent nature will be allowed if specified as a condition to a permit by USEPA or other governmental agency. Significant modifications require prior USEPA approval.

8. Allow qualified paleontologists onsite to salvage specimens and information.

Response W-25

The NEPA process and Draft EIS identified several issues of environmental concern relative to MCC's proposed project. Provisions to prevent or minimize these adverse environmental impacts have been included as NEPA related permit conditions in the NPDES permit.

Response W-26

The comment is acknowledged. EPA recognizes that MCC must obtain environmental permits and approvals from various state, regional, and local governmental bodies. To the extent these processes have been coordinated in the NEPA process, the reviews and analyses are contained in the Draft EIS.

Response W-27

USEPA acknowledges and appreciates the coordinated state agency review. Responses W-28 through W-47 are provided for these comments which are addressed individually.

Response W-28

The Enviro-Clear technology for treatment and disposal of dry wastes from the phosphate rock beneficiation process involves the use of chemical flocculants to separate and concentrate the clays. MCC and its consultants have considered the application of this technology for the Hardee County mine but have determined it to be technically unsatisfactory from the standpoint of cost, reduction in phosphate recovery efficiency in the flotation process, and the potential for release of flocculants to the environment in the waste stream. MCC is committed to a continuing review of state-of-the-art waste disposal technology (including refinements in the Enviro-Clear technique) throughout the mine life and will adopt an improved technique if one should be developed.

It should be noted that the Florida Department of Community Affairs has already agreed (Final Development Order, dated 26 March 1981) to MCC's proposed project as described in the Draft EIS. Since alternatives were addressed in the Draft EIS, EPA believes that no comment that has been provided would require a re-evaluation of alternatives.

Response W-29

During the environmental assessment of the proposed Hardee County Phosphate Mine, USEPA identified four alternative wetland preservation schemes (Section 2.10 of the DEIS). These were the following:
(1) wetlands identified in the Hardee County Development Order;
(2) wetlands classified for preservation under the USEPA Areawide categorization system; (3) wetlands classified for preservation by site-specific application of the USEPA categorization system; and (4) wetland systems providing important ecological functions. The USEPA surveyed each of the candidate preservation areas for their habitat value, hydrologic functions, and ecological values. Also considered were the potential loss of phosphate resources associated with each area. The decision to preserve 233 acres of site-specific Category I wetlands was made on the basis of these investigations, including an evaluation of functional significance.

Response W-30

Two wetlands restoration programs are being imposed on MCC. First, MCC must develop 6-one acre experimental wetland plots to satisfy the Hardee County development order. This program will be carried out on former upland areas. The results of this program will provide the technologies to be used in the restoration of the 2,010 acres which are intended to replace wetlands to be mined. The second wetlands reclamation program is the 90-acre restoration in historically wet areas required by USEPA as a part of the selected preservation alternative. Neither of these two restoration programs will be located on stripmined land. However, both programs will have performance standards imposed and will be regularly monitored to evaluate success. Wetlands identified for preservation will not be considered for mining unless the restoration programs prove to be successful.

Response W-31

The replacement of wetlands and reclamation of other mined areas on the MCC property will adhere to the rules of the Florida Department of Natural Resources (DNR), Chapter 16C-16. The wetlands reclamation plan described in the DEIS provides for restoration of 2,100 acres of the 2,540 acres to be affected by the mining operations. The DNR requirement for replacement of wetlands on an acre-for-acre basis will result in an additional 440 acres of wetlands being reclaimed.

Re-establishment of at least 10 percent of the 8,182 acres of upland habitats as mixed forests will result in approximately 820 acres of these habitats being developed onsite. This would be approximately two-for-one reclamation of similar forested communities to be affected since only about 6 percent of the existing uplands (449 acres) could be considered mixed forests. The remaining 7,733 acres are predominantly pastureland and pine flatwoods.

The replacement of wetlands and reclamation of other mined areas on the MCC property will adhere to the rules of the Florida Department of Natural Resources, Chapter 16C-16.

Response W-32

The comment is acknowledged. USEPA will continue to consult and cooperate with the Florida Bureau of Historic Sites and Properties and the Advisory Council on Historic Preservation.

Response W-33

The USEPA has determined that wetlands and streambeds which are identified to be mined do not provide essential hydrologic or ecologic functions and that mitigation in the form of restoration under an approved program can actually improve these wetland values. Wetlands identified for preservation, on the other hand, are considered to provide essential wetlands functions; mining will not be considered until restoration to an equivalent functional value can be demonstrated. Please refer to the response to comment W-43.

Response W-34

The USEPA approval for MCC to mine certain wetlands and streambeds is given within the context of an NPDES-related environmental review. Such an approval does not preclude the State of Florida from imposing more restrictive conditions or from denying a permit to conduct activities within its jurisdiction. It is for this purpose that NEPA-related condition No. 8 was imposed on the draft NPDES Permit.

Response W-35

The commentor does not provide any rationale to support the comment. Onsite water quality data were collected and may be noted in the Draft EIS in Table 3.2-3. Water quality data from the Peace River and Horse Creek were included in the Draft EIS to present an overview of regional water quality. More detailed water quality information may be found in MCC's ADA/DRI (MCC, 1977).

The surface water quality sampling program conducted on streams associated with the MCC site included eight stations to evaluate physico-chemical parameters for the ADA/DRI (MCC, 1977), and six stations to evaluate physical parameters for the EIS. Four of these stations, two each on Brushy and Oak Creeks, were identical for both studies. Additional stations included one each on Horse, Hickory, and Troublesome Creeks, one on an unnamed drainage leading to Brushy Creek, and an additional station on both Oak and Brushy Creeks. All of the stations selected were either onsite or within one half mile of the site boundary. The 24 parameters included in the surface water analyses represented a standard water quality series and are considered by USEPA to be adequate from a biological perspective to characterize the physico-chemical environment of these lotic systems.

The information presented in the Draft does not preclude the FDER from working within FDER's statutes. The USEPA understands that MCC has met with the FDER to discuss the FDER's concerns. USEPA believes the Draft EIS is adequate and sufficient under NEPA and the NPDES program.

Response W-36

See response to W-35. It should be clarified that by "water quality criteria are being violated" it is meant the ambient concentrations for some parameters (i.e., pH, and dissolved oxygen) are below the criteria. Although MCC's proposed effluent would increase the concentrations for some parameters, the mixed concentrations would still be below the pH criteria (see Table 3.2-6 of the Draft EIS). Likewise, it is probable that specific conductance and oil and grease concentrations would exceed the established criterion upon addition of MCC's effluent.

MCC has recently discussed site-specific alternative criteria with the FDER.

Response W-37

Well logs were not included in the Draft EIS; well logs were, however, contained in MCC's Consumptive Use Permit application and in the ADA/DRI and were referenced in the Draft EIS. This reference is reinforced at the end of the first paragraph on page 3.2-19 by adding the following: "Regional and site characteristics of each of these units, including well logs, are detailed in the ADA/DRI (MCC, 1977) and Consumptive Use Permit application (LaMoreaux, 1976). The site characteristics of these units are summarized herein." (See Errata, Section 2.0.)

Response W-38

The combined surface and ground water withdrawals are not to exceed 16,981,920 gallons per day on an average annual basis. However, 14,084,640 gpd will be consumed. SWFWMD regulation 16J-2.11(3) states that the amount of the water consumed should not exceed the water crop, which is assumed to be 1000 gpd/acre unless otherwise determined. Since the site acreage is 14,850 acres, the water crop is 14,850,000 gpd. MCC, therefore, proposes to utilize 94.8 percent of the water crop.

With regard to the footnote to the comment, the regulation does not exclude slime ponds from the water crop calculation. It is predicted that, following mining and reclamation, the average radium concentration of material in contact with the surface aquifer will decrease from 5.2 pCi/liter to about 4.3 pCi/liter and that seepage into the aquifer from surface impoundments would have a minimal effect due to low suspended solids content. The Ra-226 levels are highest in the upper unit of the Floridan aquifer and lowest in the lower unit (with the surficial aquifer in between). Based on this information, the USEPA does not believe that recharge water would have elevated radiation content (compared to the present) following mining reclamation.

Response W-39

Aquifer coefficients listed in Table 3.2-7 were derived by P.E. LaMoreaux and Associates, Inc. Page 3.2-21, paragraph 4, has been revised as follows (see Errata, Section 2.0):

> "At the property, a comprehensive aquifer pumping test program was implemented in order to calculate the aquifer coefficients of each limestone unit. Details of the program, test results, and analytical methods are presented in the ADA/DRI (MCC, 1977) and

Consumptive Use Permit supporting documents (Lamoreaux, 1976). Table 3.2-7 summarizes the results of the program showing the thickness and range of values for transmissivity and storage coefficients within the Suwannee Limestone, the Ocala Group, and the Avon Park Limestone."

Response W-40

Projections of the drawdown resulting from production ground water withdrawals from the Floridan aquifer show that SWFWMD's drawdown restrictions will not be exceeded. Response W-39 references the sources of data on which the projections were based.

Response W-41

As indicated in paragraph 2, page 3.2-23, of the Draft EIS, shallow aquifers would be physically removed during mining, and Floridan aquifer wells would be abandoned in accordance with the Rules of the Department of Environmental Regulation, Chapter 17-21, "Rules and Regulations Governing Water Wells in Florida." The abandonment procedure would involve plugging the well from the bottom to top with neat cement grout.

Response W-42

Kaufman, M.I. (1967) shows the potentiometric surface of the Floridan aquifer near Wauchula in 1934 to be approximately +75 feet MSL. (Reference: Kaufman, M.I., 1967, "Hydrologic effects of ground water pumpage in the Peace and Alafia River Basins, Florida, 1934-1965." Florida Div. Geology, Rept. Inv. 49, 32 p.) Yobbi (1980) reports the Floridan aquifer potentiometric surface at Wauchula to be approximately +50 feet MSL at the end of the dry season in May 1980 (Reference: Yobbi, D.K., Woodham, W.M., and Schaner, G.R., 1980, "Potentiometric surface of the Floridan aquifer, Southwest Florida Water Management District, May, 1980," U.S. Geol. Survey, Open-File Rept. No. 80-587). This is a decline of only 25 feet in the last 46 years at the site area. Kaufman also reports a potentiometric level decline of approximately 20 feet between 1934 and 1965 in the site vicinity. According to the Tampa office of the U.S. Geological Survey, potentiometric surface declines of over 80 feet have been experienced in the phosphate mining district in the past (prior to 1975 in southwestern Polk County). Current data indicate a maximum drawdown of 60 feet in the vicinity of southwestern Polk County. Current drawdowns in the area of interest are approximately 30-35 feet. These data reflect the recent (1975-1980) rise in the potentiometric surface in the SWFWMD region. See also Response W-6.

Response W-43

There are no plans to impound Brushy Creek but rather, as noted in Section 2.5.1 and illustrated in Figure 3.2-9 of the DEIS, to direct some water from Brushy Creek to form an off-channel storage basin.

Response W-44

The description of wetlands values in the Technical Support Document (Sections 3.2.1 and 6.2.1) indicates that a considerable variation in wetlands quality typifies these habitats on the MCC site, although there was no intent to suggest that wetlands are in "sad shape." In fact, as noted in Section 3.2.1, these communities are described as "the most valuable ecological resource on the site." However, extensive modifications and societal perturbations have resulted in considerable stress to significant areas of wetlands habitats. Modifications in drainage patterns have resulted in many of these systems being hydrologically stressed for much of the year. Additionally, the open pasture lands on the MCC site have resulted in wetlands and streams being criss-crossed by numerous cattle trails, further modifying the normal surface flows. The decision to preserve only the highest quality wetlands was based on the development of a wetlands reclamation scenario by MCC which, if successful, would 1) return restored wetlands to a more hydrologically functional condition, 2) add substantially to the base of knowledge concerning wetlands reclamation, and 3) assure the retention of important seed sources (in preservation areas) until successful reclamation has been proven. The proposed mining plan does not involve destruction of functionally important wetlands or stream beds until restoration of new wetlands and stream beds has been completed (Section 3.3.2.3).

The primary streams associated with the site have generally been channelized and have steep banks and unstable streambeds. Oak Creek, the water body proposed to receive periodic effluent discharge, exhibits high organic loads and concomitant low dissolved oxygen values, attributed to water hyacinths that have overgrown much of this stream. Nonetheless, the aquatic communities for these two streams are diverse and represent a balanced ecosystem. The concern over the destruction of these waterways, however, is unwarranted since no significant modifications in stream beds or the aquatic communities will be undertaken until after MCC has adequately provided a functional waterway to replace those sections to be affected. Additions of littoral zones, snags, and stream contouring should result in aquatic communities at least as well-balanced and healthy as those streams currently on site. Additionally, these restored stream/wetland systems will afford habitats that are subject to fewer natural stresses than presently occur, such as drought and flooding.

Response W-45

The USEPA has determined to its satisfaction that the wetlands which would be approved for mining satisfy the criteria established for Category II and III wetlands in the Areawide EIS; that is, these wetlands do not serve essential environmental functions. Mitigation for their destruction is nevertheless required in the form of restoration, as described in the DEIS. Wetlands which are considered to be of high quality were placed in Category I; these include 233 acres of swamps and marshes which are to be preserved. The distinction drawn by the USEPA is one of quality and ecological function.

Response W-46

MCC's waste disposal and reclamation plan was developed to minimize above-grade storage of waste clays and to return the land as close to original topography as was reasonably possible. In order to accomplish this objective, MCC's engineering consultants devised the proposed plan of capping clay disposal areas with a 4-foot sand/clay mix (ratio of 8 to 1) on approximately 4,100 acres. Approximately 5,000 acres will be left uncapped until the end of mining, at which time all available sand tailings and overburden material onsite, principally from dams and dikes, will be used to cap the clay. Every effort will be made to provide a one-foot thick tailings/overburden cap on these clays; if insufficient material is available some of the clays may not be capped but this would be much less than 3,600 acres.

As described in Section 3.6 of the DEIS, the proposed waste disposal plan will reduce radioactivity levels on the site compared to conventional methods which do not employ caps. It is true that a 4:1 sand/clay ratio in the cap would produce improved soil conditions for subsequent agricultural use, the 8:1 ratio will be similar to existing conditions and will not require the cost of additional clay removal and mining.

Response W-47

This comment is a restatement and summary of concerns expressed in comment W-45 and W-46. Please refer to the appropriate responses. USEPA believes that the rationale used in wetlands categorization, and therefore wetlands preservation, is sound; restoration technology is expected to be sufficient to recreate Category II wetlands within the time frame of MCC mining. Permission to mine Category I wetlands would not be given until the technology for restoration to an equivalent quality is demonstrated.

A lower sand/clay ratio is more costly and is not needed to cover clay areas with a sand/clay cap.

SECTION 3.3

PUBLIC HEARING
U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV
IN CONJUNCTION WITH
FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
OCTOBER 21, 1981
MISSISSIPPI CHEMICAL CORPORATION
PROPOSED PHOSPHATE MINE AND BENEFICIATION PLANT
HARDEE COUNTY, FLORIDA

PUBLIC HEARING

A public hearing on the Draft Environmental Impact Statement, the proposed issuance of a National Pollutant Discharge Elimination System Permit, and State Certification of the NPDES Permit for the Mississippi Chemical Corporation, proposed Phosphate Mine and Beneficiation Plant, Hardee County, Florida, was held on October 21, 1981, at 7:00 p.m. in the Hardee County Agricultural and Civic Center, at Altman Road and Stenstrom Road, in Wauchula, Florida.

Thereupon, the following proceedings were had and taken:

MR. ZELLER: Good evening Ladies and Gentlemen. My name is Howard Zeller and I am acting Assistant Regional Administrator for the U.S. Environmental Protection Agency, Region IV. Our Headquarters is in Atlanta, Georgia.

With me this evening are Mr. Mickey Bryant on my right, who represents the Florida Department of Environmental Regulation, next to me is Ms. Jean Tolman, who is the EIS Project Officer, and on my left is Lionel Alexander, Environmental Engineer with the Enforcement Division, and developed the NPDES permit which appears in the draft EIS.

This hearing tonight will address possible actions by EPA with respect to Mississippi Chemical Corporation's proposed phosphate mine and beneficiation plant which is to be constructed and operated near the Town of Ona in Hardee County, Florida.

The hearing is for the purpose of receiving comments on the Draft Environmental Impact Statement, the proposed issuance of a National Pollutant Discharge Elimination System (NPDES) permit, and consideration for State Certification of the permit. Under Section 401 of the Clean Water Act, the State of Florida has been requested to certify that the proposed NPDES permit will not cause violations of Florida's Water Quality Standards.

The permit application describes one proposed discharge from the facility which would discharge from the clear water pond to Oak Creek at a location near the Vandolah Plant site. The receiving stream, which is intermittent in flow, is a tributary to the Peace River.

The Federal Water Pollution Control Act, which is commonly referred to as the Clean Water Act, has as its goal the "elimination of the discharge of pollutants" by 1985. To accomplish this goal, the Act created the National Pollutant Discharge Elimination System, or NPDES, which is a national permit program, to control the discharge of pollutants into the nation's waters. Under this permit program, anyone who proposes to discharge wastes into waters of the United States must receive a permit which sets limits and conditions for the discharge of those pollutants. The NPDES permit is the basic regulatory tool for water pollution abatement under Federal law. The discharge must be in compliance with its permit effluent limits upon initiation of its discharge. Any violations of the terms, the limits, or conditions of the permit will subject the discharger to civil or criminal penalties.

The proposed project we're talking about here tonight was determined by the Regional Administrator of EPA to be a New Source as defined by Section

306 of the Clean Water Act. Now the issuance of the NPDES is subject to the provisions of the National Environmental Policy Act, or NEPA. This act was passed in 1969 and it requires an Environmental Impact Statement be developed since it is a new source as defined under Section 306 of the Clean Water Act.

The Draft NPDES Permit proposed for Mississippi Chemical Corporation was prepared by the staff of Region IV, we used all of the applicable guidelines and standards in preparation of this permit.

We have made available for distribution here this evening copies of the Public Notice and the Fact Sheet. A few copies of the Draft Environmental Impact Statement (DEIS) are available also. These documents, as well as other relevant documentation and all comments received tonight or submitted in writing by October 30, 1981, will become a part of the administrative record. The information in the record will be used in evaluating the Draft Permit and either preparing a final NPDES permit or denying the applicant a permit for the proposed discharges. Permit issuance could not occur before release of the final Environmental Impact Statement. In addition, you should be aware that all the public comments on Mississippi Chemical Corporation's facility and the Draft EIS, whether received here tonight and transcribed for the record, or submitted in writing directly to the EPA, will be summarized and addressed in the Final Impact Statement. A copy of the proposed NPDES permit will also be included in the Final Environmental Impact Statement.

A permit under the Clean Air Act, the Prevention of Significant Deterioration will also be required for Mississippi Chemical Corporation. A revised preliminary determination with regard to that permit was published in the Draft Environmental Impact Statement. The comment period on this permit also closes on October 30, 1981, after which time a final determination may be issued.

The hearing tonight is an EPA public information hearing and is conducted pursuant to 40 CFR 124.42(b) of our regulations.

Notice of the public hearing was published in the Wauchula HERALD ADVOCATE and the Tampa TRIBUNE on September 3, 1981. Additionally, copies of the Public Notice were mailed to individuals and organizations on the EPA mailing list and to all appropriate government agencies. Also, a copy was posted at the Town of Ona Post Office for thirty days.

Now, at this time, I would like to introduce and ask Mickey D. Bryant of the Florida Department of Environmental Regulation to make any comments he has relative to the State of Florida under Section 401 of the Clean Water Act. Mr. Bryant.

MR. BRYANT: Thank you, Mr. Zeller. I would also like to welcome everyone to tonight's hearing on behalf of the State of Florida, Governor Graham, and Secretary Tschinkel of the Department. The Department of Environmental Regulation is a State agency given the responsibility to process applications for State certification of NPDES permits. Section 401 of the Federal Water Pollution Control Act as amended requires 402 NPDES and 404 applicants to obtain certification of their projects. The NPDES section of the Department's Bureau of Permitting has been assigned the responsibility for handling State certification activities for Section 402 permits. The terms and conditions of State certifications are guided by Section 401 of the Act, which authorizes the State to evaluate projects requiring Federal permits and to determine whether such projects will comply with Sections 301, 302, 303, 306, and 307 of the Act and with appropriate requirements of State law.

In issuing State certifications, the Department will, of course, usually impose terms and conditions under which the project is certified. The requirements of State certifications are subsequently attached to and become conditions of the Federal Permit. An applicant or citizen may challenge the denial or issuance or terms of State certification through the formal administrative hearing process in accordance with Chapter 120 of the Florida Statutes and Chapter 17-1 of the Florida Administrative Code. Before issuing State certification, the applicant must have demonstrated that the project will comply with applicable State and Federal regulations. Among other things, the applicant must have provided reasonable assurance that the proposed project during all phases of proposed construction, operation, and discharge, will not discharge pollutants in violation of State water quality standards assigned to the receiving stream or streams.

State water quality standards apply at the point or points of discharge unless mixing zones have been obtained in accordance with Department rules. So the minimum criteria also applies within mixing zones. If there are any water quality parameters in the receiving streams that fail to meet existing State water quality standards, the applicant may need to petition for Site Specific Alternative Criteria for those parameters that do not meet standards. The Department has not yet established a position on certification of this proposed new source phosphate mine. Public comments received during tonight's hearing will be reviewed and considered prior to taking final actions. Are there any questions concerning the function that the State assumes in the NPDES process? If not, I have no further comments.

MR. ZELLER: Any questions for Mr. Bryant? Thank you. Next I'd like to ask Jean Tolman to discuss the Environmental Impact Statement and some of the requirements in the impact statement and the requirements of the National Environmental policy. Ms. Tolman.

MS. TOLMAN: Thanks, Mr. Zeller, and good evening Ladies and Gentlemen. As Mr. Zeller indicated in his opening statement, EPA Region IV has determined that Mississippi Chemical Corporation's proposed mining operation constitutes a new source as defined in Section 306 of the Clean Water Act. The EPA Region IV Administrator has determined that issuance of a new source NPDES permit for the proposed facility would constitute a major Federal action significantly affecting the quality of the human environment and is subject to the provision of the National Environmental Policy Act requiring preparation of an Environmental Impact Statement, or EIS. Notice of availability of the draft EIS was published in the Federal Register, Volume 46, Number 172, on September 5, 1981. The EIS was prepared using the so-called "Third Party EIS" process. Under this arrangement, MCC retained a consultant to prepare the EIS subject to EPA guidance and direction. Dames & Moore of Atlanta was nominated by MCC and approved by EPA as the Third Party Consultant to prepare the Draft EIS. Ultimate responsibility for the content of the EIS rests with EPA. The purpose of the EIS is to provide governmental agencies and the public information to assure that a thorough review of the environmental impacts of the proposed Federal action is included in the decision making process. To comply with the goals of the National Environmental Policy Act, abbreviated NEPA, the EIS must:

1. Provide a thorough description of the environmental background and setting;
2. Evaluate all reasonable alternatives which meet project objectives, as well as no action alternatives;
3. Assess the environmental impacts of the alternatives; and
4. Identify all potentially adverse impacts and evaluate means to mitigate these impacts.

The Council on Environmental Quality guidelines for implementing NEPA further specify that the EIS should focus on the major issues associated with the proposed project. The major issues identified with respect to MCC's proposed mining operation included the preservation and restoration of wetlands, rock drying, waste clay disposal and post-mining land reclamation. Possible impacts were radiation and impacts to ground water. The MCC draft EIS accordingly has concentrated on identifying and evaluating alternatives which would serve to minimize the impacts in these particular areas. Also, the final areawide EIS for the central Florida phosphate industry published by EPA in 1978 contains several recommendations for future phosphate mining operations. These guidelines were kept closely in mind in evaluating MCC's proposed project and in developing and evaluating alternative and mitigating measures. The key alternatives addressed in the MCC EIS were wetlands preservation, waste disposal, rock drying, and reclamation as well as the no action alternative of permit denial. Other alternatives addressed in the EIS but receiving less emphasis included location of the beneficiation facility, matrix transport and processing methods, mining methods, sources of water, location of water discharges and product transport methods. EPA's recommendations and proposed agency action are embodied in the draft NPDES permit which is contained in the draft Environmental Impact Statement. Several measures which would mitigate the environmental impacts of MCC's proposed project were identified during the preparation of the draft EIS. These conditions were made - pardon me - these measures were made conditions of the Draft NPDES permit and are contained in the last four pages of the draft permit. Briefly, these permit conditions require the following:

1. Implementation of a program to minimize impacts to the eastern indigo snake, a threatened species occurring on the site, as recommended by the U.S. Fish & Wildlife Service.
2. Completion of consultations under the National Historic Preservation Act and performance of any excavations under the guidance of the State Historic Preservation Office.
3. Preservation from mining of significant or Category I Onsite Wetlands. MCC may reapproach EPA on this item when wetlands creation has been successfully demonstrated.
4. Establishment of a no-mining setback around wetlands and streams to protect the hydrologic integrity of this area.
5. Implementation of a sand/clay capping technique to minimize above-grade clay storage areas.
6. Performance of an experimental wetland restoration program to demonstrate the ability of creating wetlands in historically wet areas.

A final EIS will be published after the close of the draft EIS comment period. The final EIS will consist of the Agency's statement of findings, tentative permit decision, substantive comments on the draft EIS and any responses to the comments, transcripts of this hearing, and any additional evaluations performed after release of the draft EIS. A copy of the draft EIS should be retained if a complete evaluation of the project is desired.

Thank you for your attention this evening. I'll return the microphone to Mr. Zeller.

MR. ZELLER: Thank you, Ms. Tolman. Does anybody have any questions about the EIS? If not, let me ask Mr. Lionel Alexander to give some of the background on the NPDES permit which is also included in the EIS. Mr. Lionel Alexander.

MR. ALEXANDER: Thank you, Mr. Zeller. The draft National Pollutant Discharge Elimination System (NPDES) permit for Mississippi Chemical Corporation was developed by the Permit Processing Section of EPA's Consolidated Permits Branch. It is our responsibility to insure that requirements of the Clean Water Act are carried out.

Mr. Zeller has stated that the proposed project was determined by the Regional Administrator to be a "new source" under Section 306 of the Clean Water Act. For this reason, the environmental aspects of the project are subject to review procedures specified in the National Environmental Policy Act (NEPA). The review process, as Jean Tolman discussed, is directed by our EIS Branch. The NPDES permit issuance process is conducted in conjunction with this review process.

In this regard, effluent guidelines have been published to address the wastewater generated from this facility. However, in some cases, effluent guideline requirements are not enough to protect the integrity of water quality within the receiving stream. This brings me to my discussion of the terms and conditions of this proposed permit. A copy of the permit can be found in Appendix A of the draft EIS.

The effluent limits on Page I-1 are applicable to wastewater discharges dependent on heavy rainfalls, which will result in non-continuous discharges. Discharge 001 will consist of over-flow from waste clay settling areas to Oak Creek. The effluent guidelines for this industry, Phosphate Rock Subcategory of the Mineral Mining and Processing Category, only identifies Total Suspended Solids and pH as parameters warranting permit conditions. As I stated before, the effluent guidelines alone will not protect the water quality within Oak Creek. The creek is classified as Class III waters suitable for contact recreation and the management and propogation of fish and wildlife; therefore, additional parameters in the draft permit are Specific Conductance and combined Radium 226 and 228. State of Florida standards for Class III waters require that the instream measurement of Specific Conductance not be raised above a maximum level. By the way, Specific Conductance is a measure of the water's ability to conduct electricity. This measurement can be used to indicate the total amount of dissolved solids. State standards also require Radium limits and the upper pH limit of 8.5 The effluent guideline limit is 9.0 for upper pH.

Also, on Page I-2 is a statement which will relieve the company from complying with the Total Suspended Solids and pH permit conditions during heavy rainfall events which might occur once in ten years if the facility is designed and constructed to meet certain criteria.

Finally, the permit conditions I have discussed constitute the principle part of the permit from an NPDES standpoint. However, as previously explained, a "new source" such as Mississippi Chemical Corporation is subject to additional environmental regulations under NEPA. Thank you, Mr. Zeller.

FURTHER REMARKS

Mr. ZELLER: This concludes the official comments and statements that we wanted to get into the record by the involved governmental agencies. We will now proceed with the main purpose of the hearing, that is, to receive comments. One of the goals of the Clean Water Act and the National Environmental Policy Act and the regulations is to encourage and provide for public participation in the decision making process for actions authorized by these acts, and to encourage government responsiveness to public concerns and to promote a greater public awareness of the actions proposed by EPA.

I hope all of you have registered for the meeting tonight so that we may have a record of those in attendance, and also so that we can send you a notice after our final determination relative to the permit. If you have not already registered and wish to make an oral statement tonight, would you please register your intent at this time.

Members of this panel may ask questions of persons presenting oral comments where it is felt necessary to clarify the nature or substance of any comments. I would like to emphasize that persons commenting for the record will not be expected nor required to respond to any questions from the public.

I would ask that each person who makes a statement to please step to the microphone, state your name and the interest or organization that you represent. This hearing is being recorded and a transcript will be included in the public record and final EIS. In addition to any oral or written comments submitted this evening, the comment period on the draft EIS will be open until October 30, 1981. A written record of this hearing and any other comments received will be held as a matter of public record at the regional office of EPA in Atlanta.

At this time I would like to recognize the Mississippi Chemical Corporation representative, Mr. R. A. Risley, who would like to make a statement regarding the facility. Mr. Risley.

MR. RISLEY: Mr. Zeller, and ladies and gentlemen, I am Dick Risley, General Manager of Phosphate Development for Mississippi Chemical Corporation. Mississippi Chemical is pleased to have this opportunity to comment on the draft Environmental Impact Statement. We believe it represents a sound environmental analysis of our proposed project. We appreciate the hard work that has gone into this well-prepared document. We would like to take this opportunity to express our appreciation to the consultants who have worked so diligently on behalf of Mississippi Chemical to produce the required information for the EIS, and finally we would like to thank Dames & Moore, the Third Party Contractor, who prepared the draft EIS under EPA's supervision. We also look forward to working with DER in obtaining State certification of the NPDES permit.

As you are aware, Mississippi Chemical Corporation is a fertilizer producing cooperative owned by farmers. The project is particularly important to Mississippi Chemical because it represents a continued source of fertilizer for the farmers who own our company. Without it, these farmers would be deprived of necessary fertilizer at the more reasonable price this mine will furnish to them. In addition, this project will provide new jobs and substantial tax revenue for Hardee County and the State of Florida. Although we recognize that this mine will have some environmental impact on the area, we believe that the plan minimizes that impact to the maximum extent possible.

In addition, because of the sound mitigation and reclamation measures to be taken, the environment will be restored to a condition better in many respects than what it was prior to the mining activity. We have additional written technical comments which we, I, would like to submit for the record at this time. [See page 3-11 ff of this Final EIS.]

MR. ZELLER: Thank you. These comments will become a part of the official record.

MR. RISLEY: These comments will address fully our technical comments on the draft EIS without the necessity of my reiterating them now. If you have any questions once you've looked over these comments, we would be happy to address them or any other questions that arise. Again, thank you for the opportunity to comment on the draft EIS tonight. We will be happy to answer any questions or provide additional information as may be necessary. I understand the record will remain open until October 30th to receive additional comments. Should any questions arise which cannot be adequately addressed tonight, we will submit further comment in writing at that time.

MR. ZELLER: Thank you, Mr. Risley. That is correct. The record will stay open until October 30th and your comments will become a part of that record and you will be addressed in the final Environmental Impact Statement when it's issued.

I do not have any cards filled out by anyone here who registered with any intent to make a statement at this hearing. Let me just ask - is there anyone here who did not fill out a card that would like to make a statement at this time? This is a public information hearing and if you have any questions relative to the permit or the Environmental Impact Statement, now is the opportunity to ask those questions and we would be happy to respond to any issues. ...... Do any members of the panel have any questions or comments at this time? Mr. Bryant? No. Ms. Tolman? No, thank you. Mr. Alexander?

Well, if not let me just thank you all very much for your attendance here this evening and for your participation and your cooperation. The record of the hearing and the comment period will remain open through close of business October 30th. This should allow anyone wishing to submit additional statements sufficient time to do so. Further submissions to be included in the official record must be in writing, and they should be sent to the attention of Ms. Jean Tolman, EIS Branch of the Environmental Protection Agency, Region IV, at 345 Courtland Street, Northeast in Atlanta, Georgia. After consideration of all written comments and of the requirements and policies in the act and appropriate regulations, we will make a determination regarding permit issuance. If the determinations are substantially unchanged, we will so notify all persons making oral statements tonight and all persons submitting written comments. If the determinations are substantially changed, we will issue a public notice indicating the revised determinations. Within thirty (30) days of receipt of the final determination or the date of the public notice, any interested party may request an evidentiary hearing on this determination. The request for an evidentiary hearing should be addressed to the EPA Regional Hearing Clerk for Region IV. Procedures for filing evidentiary hearing requests are set out in Title 40, the Code of Federal Regulations, Part 124, Subpart E and Vol. 45 of the Federal Register on Page 33498 which was published on May 19, 1980. Please note than any issues posed by an evidentiary hearing request must have previously been raised by the requestor during the public comment period or at the public hearing. Unless a request for an evidentiary hearing is granted, our determination will be the final action of the Environmental Protection Agency. Pending final agency action on an evidentiary hearing concerning this facility which is granted by the Regional Administrator, the applicant will be without a permit as the project for which the permit has been applied is a new source. The record upon which the determination to issue is made will include both comments received at this hearing and received in response to the public hearing. The final permit will be issued no sooner than thirty (30) days after issuance of the final Environmental Impact Statement pursuant to 40 CFR, Section 124.61. Roughly, I think what we're saying is that we should have the final

Environmental Impact Statement out in about sixty (60) days from today and if there are no substantive comments received, the permit could be issued about thirty (30) days after that for final action pending certification by the State of Florida, Department of Environmental Regulation could be completed relative to this project in about ninety (90) days. That's probably the earliest time frame that we could accomplish what we are talking about.

Again, let me thank you all very much for your participation in this hearing and if no one has any further comments, then I would like to close the record and announce that this public hearing is now closed.

4.0 FINAL ENVIRONMENTAL IMPACT STATEMENT COORDINATION LIST

The following Federal, state, and local agencies, public officials, organization, and interest groups have been requested to comment on this impact statement.

Federal Agenices

Bureau of Mines
Coast Guard
Corps of Engineers
Council on Environmental Quality
Department of Agriculture
Department of Commerce
Department of Education
Department of the Interior
Department of Transportation
Department of Health and Human Services

Department of Housing and Urban Development
Department of Energy
Federal Highway Administration
Fish and Wildlife Service
Food and Drug Administration
Forest Service
Geological Survey
National Park Service
Economic Development Administration
Soil Conservation Service
Public Health Service

Members of Congress

Honorable Lawton Chiles
United States Senate

Honorable Sam Gibbons
U.S. House of Representatives

Honorable L.A. Bafalis
U.S. House of Representatives

Honorable Paula Hawkins
United States Senate

Honorable Andy P. Ireland
U.S. House of Representatives

State

Honorable D. Robert Graham, Governor
Coastal Coordinating Council
Department of Natural Resources
Department of Agriculture and Consumer Services
Department of Community Affairs
Geological Survey

Game and Freshwater Fish Commission
Department of State
Department of Commerce
Department of Health and Rehabilitative Services
Department of Environmental Regulation
Department of Transportation

Local and Regional

Polk County Commission
Manatee County Commission
DeSoto County Commission
Hardee County Commission
Hardee County Building & Zoning Department
Tampa Bay Regional Planning Council
Central Florida Regional Planning Council
Southwest Florida Water Management District

Interest Groups

The Fertilizer Institute
Florida Phosphate Council
Florida Audubon Society
Florida Sierra Club
Manasota 88
Florida Defenders of the Environment
Izaak Walton League of America
Florida Wildlife Federation

5.0 LIST OF PREPARERS

United States Environmental Protection Agency

Name	Responsibility
Robert B. Howard	Acting Chief, EIS Preparation Unit
Dario J. Dal Santo	Project Officer
William H. Cloward	NPDES Permit Coordinator
Lionel Alexander III	NPDES Permit Coordinator
William L. Kruczynski	Biology and Ecology
Philip J. Murphy	Biology and Ecology
H. Richard Payne	Radiation
Thomas R. Cavinder	Surface Water
William P. Davis	Surface Water
A. Eugene Coker	Ground Water/Geology
D. Brian Mitchell	Air Quality
Lewis Nagler	Air Quality
James E. Orban	Noise

Dames & Moore

Name	Responsibility	Education
Ronald E. Kear	Principal-in-Charge	B.S., Civil Engineering
David E. Hawkins	Project Manager, Rock Drying Alternative	M.E., Environmental Engineering M.S., Aerospace Engineering
Christine E. Poulos	Assistant Project Manager	M.S., Environmental Engineering Science
T. Mike Gurr	Alternatives (except rock drying and wetlands preservation)	M.A., Geology
Thomas E. Simpson	Wetlands Preservation Alternative, Biology	Ph.D, Biological Science
Robert E. Hunter	Geology/Soils	B.S., Zoology and Geology
Steve H. Blair	Surface Water Hydrology	M.S, Civil Engineering
Mark R. Stephens	Ground Water Hydrology	M.S., Geology and Water Resources
Steven G. Cox	Botany	M.S., Botany
Albert K. Langley, Jr.	Zoology, Threatened and Endangered Species	Ph.D, Ecology
G. Raymond Brown	Air Quality, Climatology	Ph.D, Physics
William W. Wade	Socioeconomics	B.A., Business Administration
Marvin F. Smith	Land Use, Archeological/Historical Resources	B.A., Business Administration and Industrial Geography
Frederick M. Kessler	Noise	Ph.D, Electrical Engineering
Gary C. Re	Radiology	M.S., Environmental Health Science

For information on this material, contact Dario J. Dal Santo at (404) 881-7458 (FTS/257-7458).

6.0 APPENDICES

6.1 FINAL DRAFT NPDES PERMIT FOR THE MISSISSIPPI CHEMICAL CORPORATION MINE PROJECT, HARDEE COUNTY, FLORIDA

Permit No.: FL0037745

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended (33 U.S.C. 1251 et. seq; the "Act"),

Mississippi Chemical Corporation

is authorized to discharge from a facility located at

near the Vandolah Plant Site
Latitude - 27° 30' 10

Longitude - 81° 55' 59"

to receiving waters named

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Oak Creek

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof. The permit consists of this cover sheet, Part I 2 pages(s), Part II 12 page(s) and Part III 4 page(s).

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,

Date Signed

Paul J. Traina
Director
Water Management Division

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from outfall(s) serial number(s)001-process generated wastewater.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	kg/day (lbs/day)		Other Units (Specify)			
	Daily Avg	Daily Max	Daily Avg	Daily Max	Measurement Frequency (during discharge)	Sample Type
Flow—m³/Day (MGD)	—	—	—	—	Continuous	Recorder
Total Suspended Solids	--	--	30 mg/1	60 mg/1	1/week	Composite
Specific Conductance	--	--	550 µmhos/cm	900 µmhos/cm	1/week	Composite
Radium*	--	--	5pci/1	10pci/1	1/week	Composite

*Combined Radium 226 & 228

The pH shall not be less than 6.0 standard units nor greater than 8.5 standard units and shall be monitored once per week with a grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): nearest accessible point after final treatment but prior to actual discharge or mixing with the receiving waters.

The flow in Oak Creek must be at least 1.4 times the discharge flow to the creek.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Any overflow from facilities designated, constructed and maintained to contain or treat the volume of wastewater which would result from a "10-year, 24-hour precipitation event shall not be subject to the suspended solids limitation or the pH limitation listed on the preceeding pages. Monitoring and reporting shall be required for all other parameters.

The effluent limits and any additional requirements specified in the state certification supersede any less stringent effluent limits listed above. During any time period in which more stringent state certification effluent limits are stayed or inoperable, the effluent limits listed above shall be in effect and fully enforceable.

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B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

Operational Level Attained.................Effective Date of Permit

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

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A. MANAGEMENT REQUIREMENTS

1. Discharge Violations

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than, or at a level in excess of, that identified and authorized by this permit constitutes a violation of the terms and conditions of this permit. Such a violation may result in the imposition of civil and/or criminal penalties as provided in Section 309 of the Act.

2. Change in Discharge

Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application at least 180 days prior to commencement of such discharge. Any other activity which would constitute cause for modification or revocation and reissuance of this permit, as described in Part II (B) (4) of this permit, shall be reported to the Permit Issuing Authority.

3. Noncompliance Notification

a. Instances of noncompliance involving toxic or hazardous pollutants should be reported as outlined in Condition 3c. All other instances of noncompliance should be reported as described in Condition 3b.

b. If for any reason, the permittee does not comply with or will be unable to comply with any discharge limitation specified in the permit, the permittee shall provide the Permit Issuing Authority with the following information at the time when the next Discharge Monitoring Report is submitted.

(1) A description of the discharge and cause of noncompliance;
(2) The period of noncompliance, including exact dates and times and/or anticipated time when the discharge will return to compliance; and
(3) Steps taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

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c. Toxic or hazardous discharges as defined below shall be reported by telephone within 24 hours after permittee becomes aware of the circumstances and followed up with information in writing as set forth in Condition 3b. within 5 days, unless this requirement is otherwise waived by the Permit Issuing Authority:

   (1) Noncomplying discharges subject to any applicable toxic pollutant effluent standard under Section 307(a) of the Act;
   (2) Discharges which could constitute a threat to human health, welfare or the environment. These include unusual or extraordinary discharges such as those which could result from bypasses, treatment failure or objectionable substances passing through the treatment plant. These include Section 311 pollutants or pollutants which could cause a threat to public drinking water supplies.

d. Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

4. Facilities Operation

All waste collection and treatment facilities shall be operated in a manner consistent with the following:

a. The facilities shall at all times be maintained in a good working order and operated as efficiently as possible. This includes but is not limited to effective performance based on design facility removals, adequate funding, effective management, adequate operator staffing and training, and adequate laboratory and process controls (including appropriate quality assurance procedures); and

b. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during noncritical water quality periods and carried out in a manner approved by the Permit Issuing Authority.

c. The permittee, in order to maintain compliance with this permit shall control production and all discharges upon reduction, loss, or failure of the treatment facility until the facility is restored or an alternative method of treatment is provided.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the United States resulting from

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noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature of the noncomplying discharge.

6. Bypassing

"Bypassing" means the intentional diversion of untreated or partially treated wastes to waters of the United States from any portion of a treatment facility. Bypassing of wastewaters is prohibited unless all of the following conditions are met:

a. The bypass is unavoidable-i.e. required to prevent loss of life, personal injury or severe property damage;

b. There are no feasible alternatives such as use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time;

c. The permittee reports (via telephone) to the Permit Issuing Authority any unanticipated bypass within 24 hours after becoming aware of it and follows up with written notification in 5 days. Where the necessity of a bypass is known (or should be known) in advance, prior notification shall be submitted to the Permit Issuing Authority for approval at least 10 days beforehand, if possible. All written notifications shall contain information as required in Part II (A)(3)(b); and

d. The bypass is allowed under conditions determined to be necessary by the Permit Issuing Authority to minimize any adverse effects. The public shall be notified and given an opportunity to comment on bypass incidents of significant duration to the extent feasible.

This requirement is waived where infiltration/inflow analyses are scheduled to be performed as part of an Environmental Protection Agency facilities planning project.

7. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the United States.

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8. Power Failures

The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures either by means of alternate power sources, standby generators or retention of inadequately treated effluent. Should the treatment works not include the above capabilities at time of permit issuance, the permittee must furnish within six months to the Permit Issuing Authority, for approval, an implementation schedule for their installation, or documentation demonstrating that such measures are not necessary to prevent discharge of untreated or inadequately treated wastes. Such documentation shall include frequency and duration of power failures and an estimate of retention capacity of untreated effluent.

9. Onshore or Offshore Construction

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any waters of the United States.

B. RESPONSIBILITIES

1.. Right of Entry

The permittee shall allow the Permit Issuing Authority and/or authorized representatives (upon presentation of credentials and such other documents as may be required by law) to:

a. Enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit;

b. Have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit;

c. Inspect at reasonable times any monitoring equipment or monitoring method required in this permit;

d. Inspect at reasonable times any collection, treatment, pollution management or discharge facilities required under the permit; or

e. Sample at reasonable times any discharge of pollutants.

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2. Transfer of Ownership or Control

A permit may be transferred to another party under the following conditions:

a. The permittee notifies the Permit Issuing Authority of the proposed transfer;

b. A written agreement is submitted to the Permit Issuing Authority containing the specific transfer date and acknowledgement that the existing permittee is responsible for violations up to that date and the new permittee liable thereafter.

Transfers are not effective if, within 30 days of receipt of proposal, the Permit Issuing Authority disagrees and notifies the current permitttee and the new permittee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act, (33 U.S.C. 1318) all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Permit Issuing Authority. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act (33 U.S.C. 1319).

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, terminated or revoked for cause (as described in 40 CFR 122.15 et seq) including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either temporary interruption or elimination of the permitted discharge; or

d. Information newly acquired by the Agency indicating the discharge poses a threat to human health or welfare.

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If the permittee believes that any past or planned activity would be cause for modification or revocation and reissuance under 40 CFR 122.15 et seq, the permittee must report such information to the Permit Issuing Authority. The submission of a new application may be required of the permittee.

5. Toxic Pollutants

   a. Notwithstanding Part II (B)(4) above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revoked and reissued or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

   b. An effluent standard established for a pollutant which is injurious to human health is effective and enforceable by the time set forth in the promulgated standard, even though this permit has not as yet been modified as outlined in Condition 5a.

6. Civil and Criminal Liability

Except as provided in permit conditions on "Bypassing", Part II (A) (6), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act (33 U.S.C. 1321).

8. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

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9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

10. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

11. Permit Continuation

A new application shall be submitted at least 180 days before the expiration date of this permit. Where EPA is the Permit Issuing Authority, the terms and conditions of this permit are automatically continued in accordance with 40 CFR 122.5, provided that the permittee has submitted a timely and sufficient application for a renewal permit and the Permit Issuing Authority is unable through no fault of the permittee to issue a new permit before the expiration date.

C. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

Monitoring results obtained during each calendar month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1). Forms shall be submitted at the end of each calendar quarter and shall be postmarked no later than the 28th day of the month following the end of the quarter. The first report is due by the 28th day of the month following the first full quarter after the effective date of this permit.

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Signed copies of these, and all other reports required herein, shall be submitted to the Permit Issuing Authority at the following address(es):

Permit Compliance Branch
Environmental Protection Agency
Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

3. Test Procedures

Test procedures for the analysis of pollutants shall conform to all regulations published pursuant to Section 304(h) of the Clean Water Act, as amended (40 CFR 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants").

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The person(s) who obtained the samples or measurements;

c. The dates the analyses were performed;

d. The person(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of all required analyses.

5. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (EPA No. 3320-1). Such increased frequency shall also be indicated.

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6. Records Retention

The permittee shall maintain records of all monitoring including: sampling dates and times, sampling methods used, persons obtaining samples or measurements, analyses dates and times, persons performing analyses, and results of analyses and measurements. Records shall be maintained for three years or longer if there is unresolved litigation or if requested by the Permit Issuing Authority.

D. DEFINITIONS

1. Permit Issuing Authority

The Regional Administrator of EPA Region IV or designee.

2. Act

"Act" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act) Public Law 92-500, as amended by Public Law 95-217 and Public Law 95-576, 33 U.S.C. 1251 et seq.

3. Mass/Day Measurements

a. The "average monthly discharge" is defined as the total mass of all daily discharges sampled and/or measured during a calendar month on which daily discharges are sampled and measured, divided by the number of daily discharges sampled and/or measured during such month. It is, therefore, an arithmetic mean found by adding the weights of the pollutant found each day of the month and then dividing this sum by the number of days the tests were reported. This limitation is identified as "Daily Average" or "Monthly Average" in Part I of the permit and the average monthly discharge value is reported in the "Average" column under "Quantity" on the Discharge Monitoring Report (DMR).

b. The "average weekly discharge" is defined as the total mass of all daily discharges sampled and/or measured during a calendar week on which daily discharges are sampled and/or measured divided by the number of daily discharges sampled and/or measured during such week. It is, therefore, an arithmetic mean found by adding the weights of pollutants found each day of the week and then dividing this sum by the number of days the tests were reported. This limitation is identified as "Weekly Average" in Part I of the permit and the average weekly discharge value is reported in the "Maximum" column under "Quantity" on the DMR.

c. The "maximum daily discharge" is the total mass (weight) of a pollutant discharged during a calendar day. If only one sample is taken during any calendar day the weight of pollutant

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calculated from it is the "maximum daily discharge". This limitation is identified as "Daily Maximum," in Part I of the permit and the highest such value recorded during the reporting period is reported in the "Maximum" column under "Quantity" on the DMR.

4. Concentration Measurements

a. The "average monthly concentration," other than for fecal coliform bacteria, is the concentration of all daily discharges sampled and/or measured during a calendar month on which daily discharges are sampled and measured divided by the number of daily discharges sampled and/or measured during such month (arithmetic mean of the daily concentration values). The daily concentration value is equal to the concentration of a composite sample or in the case of grab samples is the arithmetic mean (weighted by flow value) of all the samples collected during that calendar day. The average monthly count for fecal coliform bacteria is the geometric mean of the counts for samples collected during a calendar month. This limitation is identified as "Monthly Average" or "Daily Average" under "Other Limits" in Part I of the permit and the average monthly concentration value is reported under the "Average" column under "Quality" on the DMR.

b. The "average weekly concentration," other than for fecal coliform bacteria, is the concentration of all daily discharges sampled and/or measured during a calendar week on which daily discharges are sampled and measured divided by the number of daily discharges sampled and/or measured during such week (arithmetic mean of the daily concentration values). The daily concentration value is equal to the concentration of a composite sample or in the case of grab samples is the arithmetic mean (weighted by flow value) of all samples collected during that calendar day. The average weekly count for fecal coliform bacteria is the geometric mean of the counts for samples collected during a calendar week. This limitation is identified as "Weekly Average" under "Other Limits" in Part I of the permit and the average weekly concentration value is reported under the "Maximum" column under "Quality" on the DMR.

c. The "maximum daily concentration" is the concentration of a pollutant discharged during a calendar day. It is identified as "Daily Maximum" under "Other Limits" in Part I of the permit and the highest such value recorded during the reporting period is reported under the "Maximum" column under "Quality" on the DMR.

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5. Other Measurements

   a. The effluent flow expressed as M^3/day (MGD) is the 24 hour average flow averaged monthly. It is the arithmetic mean of the total daily flows recorded during the calendar month. Where monitoring requirements for flow are specified in Part I of the permit the flow rate values are reported in the "Average" column under "Quantity" on the DMR.

   b. Where monitoring requirements for pH, dissolved oxygen or fecal coliform are specified in Part I of the permit the values are generally reported in the "Quality or Concentration" column on the DMR.

6. Types of Samples

   a. Composite Sample - A "composite sample" is any of the following:

      (1) Not less than four influent or effluent portions collected at regular intervals over a period of 8 hours and composited in proportion to flow.

      (2) Not less than four equal volume influent or effluent portions collected over a period of 8 hours at intervals proportional to the flow.

      (3) An influent or effluent portion collected continuously over a period of 24 hours at a rate proportional to the flow.

   b. Grab Sample: A "grab sample" is a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the total discharge.

7. Calculation of Means

   a. Arithmetic Mean: The arithmetic mean of any set of values is the summation of the individual values divided by the number of individual values.

   b. Geometric Mean: The geometric mean of any set of values is the Nth root of the product of the individual values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).

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c. Weighted by Flow Value: Weighted by flow value means the summation of each concentration times its respective flow divided by the summation of the respective flows.

8. Calendar Day

a. A calendar day is defined as the period from midnight of one day until midnight of the next day. However, for purposes of this permit, any consecutive 24-hour period that reasonably represents the calendar day may be used for sampling.

6.1-17

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PART III

OTHER REQUIREMENTS

1. In accordance with Section 306(d) of the Federal Water Pollution Control Act (PL 92-500) the standards of performance for conventional Pollutions as contained in this permit shall not be made any more stringent during a ten year period beginning on the date of completion of construction or during the period of depreciation of amortization of such facility for the purposes of Section 167 or 169 (or both) of the Internal Revenue Code of 1954, whichever period ends first. The provisions of Section 306(d) do not limit the authority of the Environmental Protection Agency to modify the permit to require compliance with a toxic effluent limitation promulgated under BAT or Toxic Pollutant Standard established under Section 307(a) of the FWPCA.

National Environmental Policy Act Requirements

1) The Permittee shall undertake a program as recommended by the U.S. Fish and Wildlife Service to avoid injuring or killing the eastern indigo snake. If this species is encountered during mining or related activities, the snake should be collected and safely removed from the area. MCC shall coordinate with the Florida Endangered Species Coordinator for the relocation of the snake.

To insure this program is acceptably implemented, MCC shall develop a program to familarize MCC employees with the characteristics of the species and in safe capture, handling, and holding procedures.

2) A data recovery plan, including a detailed research design, for archaeological investigations at archaeological site 8 Hr 5 will be submitted to the Florida SHPO and the Advisory Council by August 1982, for review and approval prior to implementaiton and prior to commencement of mining related activities. If neither the SHPO nor the Council object within 15 days after receipt, the plan will be considered approved and implementable subject to being conducted under guidance of the SHPO. If either party objects the SHPO, the Council, MCC, and EPA (as appropriate) will consult to resolve the objections.

MCC will submit the recovery plan to EPA who in turn will submit copies to the Florida SHPO and the Advisory Council.

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PART III

DR

OTHER REQUIREMENTS - continued

3) The Permittee shall preserve from mining and other disturbances those significant onsite wetlands designated as Category I wetlands for the site (attached Figure I). If, in time, onsite wetland systems of an equally functional value as those currently onsite have been created, an MCC proposal to mine the preserved wetland areas would be reevaluated.

4) To preserve the hydrologic integrity of the preserved wetland systems, a "no-mining" setback shall be established around the periphery of the preserved wetlands. The setback (currently identified as 250 feet) shall be formally established by well pump testing prior to dewatering activities in the vicinity of each preserved wetland. EPA will review the testing results and confirm the setback prior to dewatering activities.

5) Mining in the vicinity of streams shall be conducted only along one side of the stream at a time. The Permittee shall meet the conditions of its Southwest Florida Water Management District Consumptive-Use Permit.

6) The Permittee shall implement the sand/clay capping technique to minimize above-grade clay storage areas and shall restore topography to as close to the original conditions as possible.

7) The Permittee shall conduct an experimental 90 acre wetland restoration program to demonstrate the ability of creating wetlands in historically wet areas. The program shall be conducted in areas of Section 32, T34S-R24E and Section 31, T34S-R24E (attached Figure II). A protocol for the wetland creation program identifying proposed locations, proposed methodology, and evaluation criteria shall be approved by EPA not later than the start of mining operations.

8) Not later than the commencement of earth moving operations the Permittee shall submit for EPA review and approval an implementation protocol for the wetlands creation/restoration program. The protocol shall identify all creation/restoration efforts proposed (including test plots), proposed locations and acreages, proposed methodologies and evaluation criteria, and proposed time frames. The protocol shall also identify the individuals (and qualifications of same) who will be actively involved in the program.

PART III

DRAFT

OTHER REQUIREMENTS - continued

The protocol shall form the basis for the Permittee's wetlands program and for EPA's continued involvement in the program. The EPA will coordinate protocol and program evaluation with the Corps of Engineers and the U. S. Fish and Wildlife Service.

9) The Permittee shall allow qualified paleontologists reasonable opportunity to salvage paleontological specimens and information from the site. The paleontologists must be verified by the Florida State Museum (FSM) and arrangements made with MCC through the FSM. Qualified individuals will be allowed onsite subject to MCC's requirements for safety, liability, and visitor accountability and on a non-mining interference basis.

IF a specimen is uncovered during mining operations MCC will directly notify the FSM.

10) Unless a preceeding condition specifies otherwise, the Permittee shall implement its proposed project in complete accordance with the proposed action described in the Draft EIS and Final EIS. This shall not preclude implementation of additional or more stringent conditions required by local or state governmental bodies. Should the Permittee desire significant modification of the project, such modification must be approved by EPA prior to initiation.

6.1-20

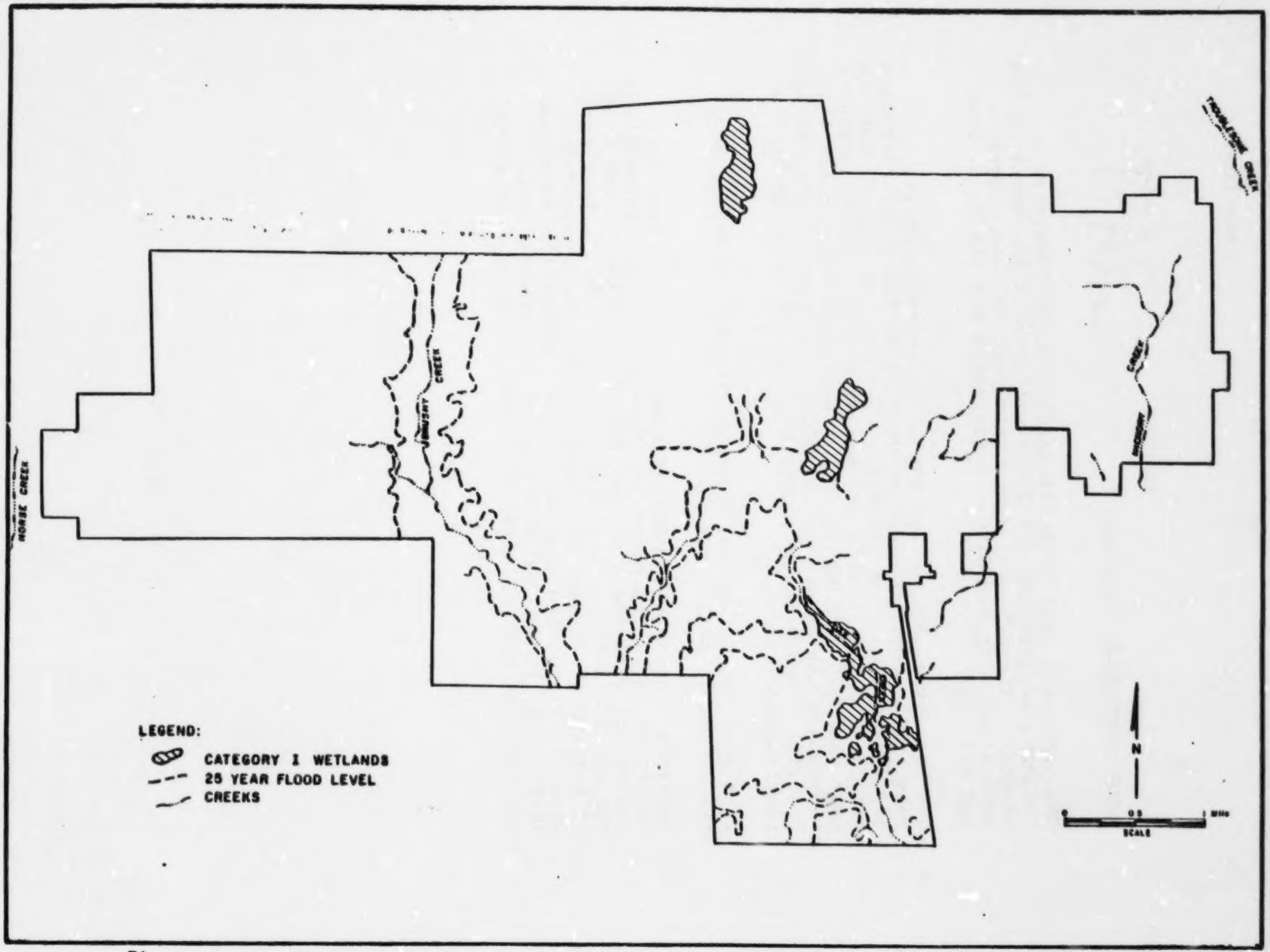
TROUBLESOME CREEK
HORSE CREEK
CREEK
CREEK
N
0
0.5
1 Mile
SCALE
LEGEND:
▨ CATEGORY I WETLANDS
- - - 25 YEAR FLOOD LEVEL
—· CREEKS

Figure I, Site Specific Category I Wetlands, Mississippi Chemical Corporation.

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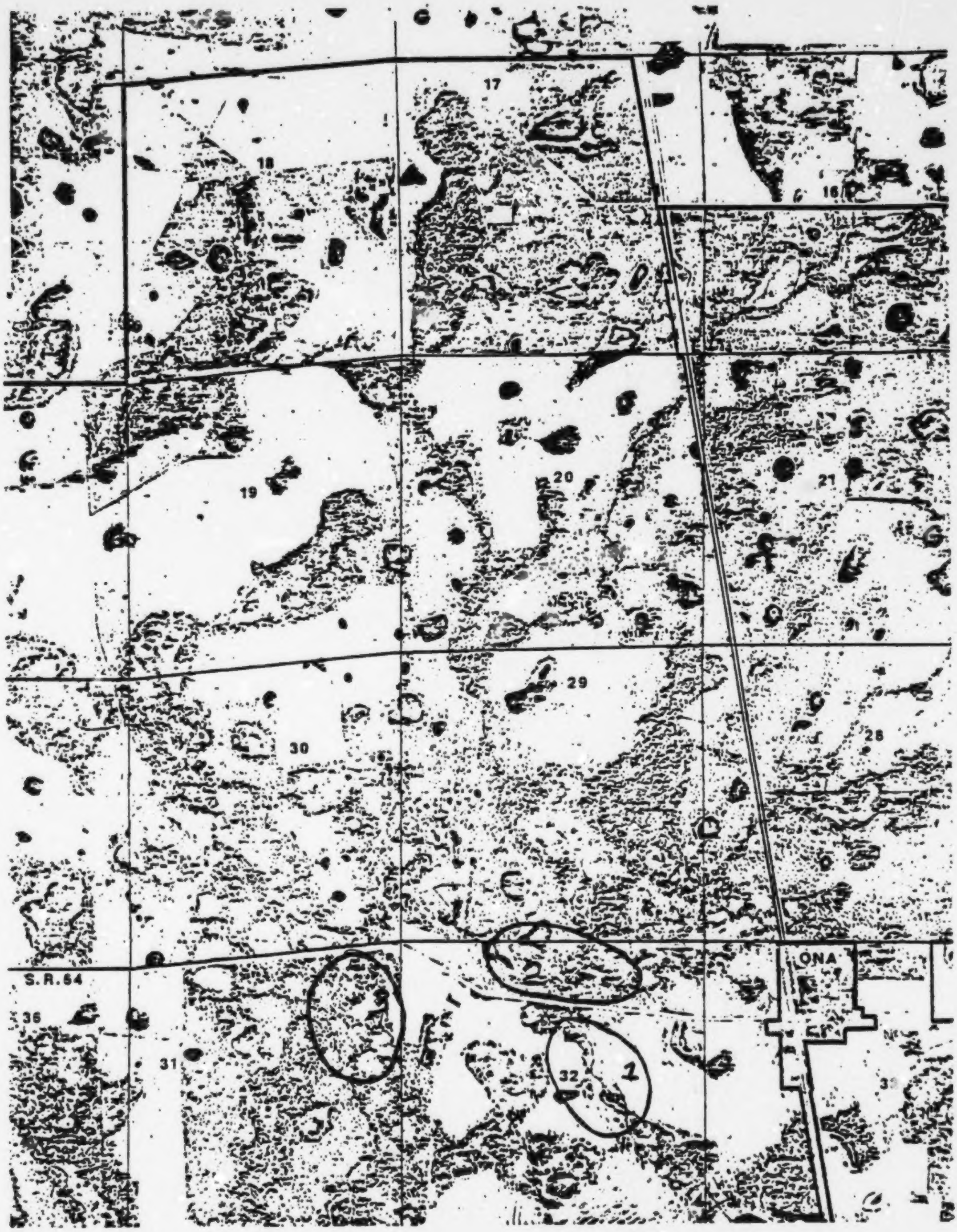
17
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S.R. 64
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Figure II.
(Not to scale.)

6.2 SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT CONSUMPTIVE USE PERMIT

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

IN RE:

MISSISSIPPI CHEMICAL CORPORATION)
CONSUMPTIVE USE PERMIT)
APPLICATION NO. 27703567) ORDER NO. 77-9
"WORK OF THE DISTRICT" PERMIT)
APPLICATION NO. 76-326)

ORDER GRANTING PERMIT PURSUANT TO HEARING BEFORE GOVERNING BOARD

This matter came on to be heard by the Governing Board of the Southwest Florida Water Management District at a public hearing on May 4, 1977. Said public hearing, being duly and properly noticed, was conducted at District Headquarters, 5060 U.S. Highway 41 South, Brooksville, Florida, and all parties hereto were present or given the opportunity to be present, and together with the general public, were given an opportunity to present testimony and evidence. The Board, having reviewed the applications and all documents in the File of Record, having heard testimony, and having received and examined all documentary evidence, makes the following

FINDINGS OF FACT:

1. Pursuant to Chapter 373, Florida Statutes, and Chapter 16J, Florida Administrative Code, Mississippi Chemical Corporation has made application (Application No. 27703567) to the Southwest Florida Water Management District for a consumptive use permit authorizing the average annual withdrawal of 16,981,920 gallons of water per day (gpd) and the maximum daily withdrawal of 33,850,500 gallons per day (gpd) in Hardee County, Florida. The applicant presently owns, controls, or will own or control (prior to initiation of consumptive water use) approximately 14,719 acres of land in Hardee County, Florida. The applicant proposes to withdraw the water for the purpose of mining and beneficiating 3 million tons per year of phosphate rock.

2. At the present time 11,501.4 acres of the foregoing 14,719 acre tract is serving as a source of water

supply for persons withdrawing water under existing use permits, to-wit:

Donald E. and Susan Smith - Permit No. 27703508

Doyle E. Carlton, III - Permit Nos. 27703518,
27703519, and 27703520

Jane Carlton - Permit No. 27703521

3. The foregoing existing consumptive use of 5,579,589 gallons per day on an annual average basis is 41% less than the average water crop throughout the District and is being withdrawn for the purpose of providing ditch irrigation of approximately 5,000 acres of improved pasture. This existing use represents about 15 inches of irrigation water applied to the pasture per year.

4. The withdrawal proposed by the applicant herein might affect the foregoing named existing legal uses of water, but, as provided above, the applicant will own or otherwise control all portions of the tract, including those subject to the existing agricultural use described above, prior to the initiation of its consumptive use. Upon commencement of the withdrawals by the applicant, the withdrawal by the "existing users" is to be reduced and ultimately terminated in accordance with the terms of the written agreement (dated April 12, 1977) between the applicant and said "existing users" on file with the District.

5. The applicant proposes to withdraw the water in the following manner:

a. When the applicant achieves ownership or control of the subject tract, comprising some 14,719 acres of land in Hardee County, Florida, the maximum authorized withdrawal therefrom shall be no greater than 16,981,920 gallons of water per day on an annual average basis and no greater than 33,850,500 gallons per day on a maximum daily withdrawal basis. These maximum withdrawal rates include those amounts which could otherwise be withdrawn by the above named "existing users" under their existing use permits. By agreement between the applicant and said "existing users", it is contemplated that as the applicant's withdrawal rate increases, the withdrawal rate of the "existing users" will decrease as required to insure that maximum levels specified herein are not exceeded. The applicant will be responsible for coordinating the termination of existing uses as the new uses are phased in.

b. During the first three (3) years following commencement of mining operations, the total withdrawal for phosphate mining and beneficiation purposes is to be from the Floridan Aquifer by means of six production wells. Thereafter, commencing with the fourth year of mining operations, the applicant proposes to divert water from Brushy Creek, a tributary of the Peace River, to a surface water storage basin to be constructed by applicant on its lands, and hereinafter referred to as the Brushy Creek Storage Basin. The applicant proposes to maximize the quantity of water diverted to the storage basin by diverting such amounts as may be required to fill, or attempt to fill, the basin to capacity, while simultaneously maintaining minimum flows in Brushy Creek, downstream from the point of diversion. The applicant has submitted an application for a "Work of the District" Permit (16J-1.051, F.A.C.) for the proposed weir structure and the proposed diversion of water. (Application No. 76-326)

c. The applicant proposes that the subsequent withdrawal of water from the Brushy Creek Storage Basin will not exceed 5,860,000 gallons per day on an average annual basis or 12,942,720 gallons per day on a maximum daily basis. However, subject to the foregoing maximum limitations, the applicant proposes to maximize the use of this available surface water by according its withdrawals from the storage basin such priority over its withdrawals of ground water as is consistent with good water management practices in order to minimize the impact of applicant's proposed operations upon the ground water resources of the tract and area. In any event, the combined withdrawal from the Brushy Creek Storage Basin and the six production wells is not to exceed the total average annual withdrawal authorized herein of 16,981,920 gallons per day or the maximum daily withdrawal authorized herein of 33,850,500 gallons per day.

d. The applicant further proposes to maintain monthly minimum rates for flow for Brushy Creek downstream along

Brushy Creek from the point of diversion to the Brushy Creek Storage Basin. The monthly minimum rates of flow shall be computed on an average monthly basis. The applicant is to continuously monitor the flows on Brushy Creek and has proposed that the Governing Board of the Southwest Florida Water Management District retain authority in the requested permit to increase or otherwise modify the proposed monthly minimum rates of flow where deemed appropriate by the Governing Board in order to protect fish and wildlife, promote the public health and safety, or otherwise safeguard the public interest.

e. The applicant has acknowledged that its mine pit dewatering operations within approximately 450 feet of its property boundary could cause the water table under lands not owned, leased or otherwise controlled by the applicant to be lowered more than three (3) feet. The applicant proposes to obtain the written consent from all persons owning, leasing, or otherwise controlling lands within 450 feet of any proposed pit dewatering project prior to the excavation and dewatering of the pit.

f. The applicant proposes to install and construct such monitoring facilities in the vicinity of its lands as may be necessary to give early indication of changes in the conditions of the water resources in the area, as designated by the staff of the District and as specified in the consumptive use permit attached to this Order.

6. The applicant has conducted extensive aquifer tests on the property in question for the purpose of predicting the effects of the proposed withdrawals upon the hydrologic system and upon existing legal users of water. The data collected during these tests has been submitted to the District for review and study. The Board is of the opinion and so finds that if the applicant withdraws the water in the quantity and in the manner specified above:

a. The proposed withdrawal will not cause the level of the potentiometric surface to be lowered below any existing regulatory level established by the Southwest Florida

Water Management District.

b. The proposed withdrawal will not significantly induce saltwater intrusion.

c. The proposed withdrawal will not cause the water table to be lowered so that the lake stages or vegetation will be adversely and significantly affected on lands other than those owned, leased or otherwise legally controlled by the applicant.

d. The proposed withdrawal of water from Brushy Creek will reduce the rate of flow by more than 5% at the time and point of withdrawal. The Board finds that such withdrawal is consistent with the public interest by making efficient use of available surface water sources, while requiring the applicant to maintain the monthly minimum rates of flow specified herein.

e. The proposed withdrawal will not cause the level of the potentiometric surface under lands not owned, leased or otherwise controlled by the applicant to be lowered more than five (5) feet.

f. The proposed withdrawal will not cause the level of the water table under lands not owned, leased or otherwise controlled by the applicant to be lowered more than three (3) feet. However, when mine pit dewatering occurs within approximately 450 feet of the property boundary, the water table under lands not owned, leased, or otherwise controlled by the applicant could be lowered more than three (3) feet. The Board finds that this potential adverse impact is consistent with the public interest provided written consent and permission is obtained from the adjacent property owners prior to commencement of the pit dewatering projects.

g. The proposed withdrawal will not cause the level of the surface of water in any lake or other impoundment to be lowered more than one foot unless the lake or impoundment is wholly owned, leased or otherwise controlled by the applicant.

h. The proposed withdrawal will not cause the potentiometric surface to be lowered below sea level.

i. The proposed withdrawals for mining and beneficiation operations will consumptively use about 81% of the withdrawal authorized by this Order.

j. The proposed consumptive use of 14,084,640 gallons of water per day from 14,719 acres of land owned, leased or otherwise to be controlled by the applicant is equivalent to a withdrawal at the rate of 349,269 gallons per year per acre, which is 4% less than the average water crop throughout the District.

k. There are insufficient monitoring facilities in the vicinity of the applicant's lands to give early indication of any changes in the conditions of the water resources in the area. The Board finds that it is appropriate to require installation of flow-metering devices and installation or construction of other monitoring facilities as described in the consumptive use permit attached in Exhibit "1".

l. The proposed weir structure within and the diversion of water from Brushy Creek will:

(1) Not place fill material, or any non-water use related structure within the mean annual floodplain of a lake or other impoundment, or of a stream or other water course;

(2) Not cause significant adverse effects on lands not owned, leased, or otherwise controlled by the applicant by drainage or inundation;

(3) Restrict or alter the rate of flow of a stream or other watercourse within the floodplain of a twenty-five (25) year flood;

(4) Not extend beyond a line of encroachment established by the Board;

(5) Cause an increase or decrease in the rate of flow of a stream or other watercourse by 5% or more;

(6) Not cause an increase in the peak rate of flow or total volume of storm runoff by 10% or more from lands owned, leased or otherwise controlled by the applicant.

m. The Board finds that the proposed diversion from Brushy Creek is not inconsistent with the public interest because it permits the applicant to make efficient use of available surface water, thus minimizing the effect of its mining and beneficiation operations on the ground water resources of the area. Maintenance of minimum monthly flows downstream from the diversion will minimize the impact of the diversion and permit the public interest to be safeguarded.

n. The applicant has advised the District Staff and this Board that it will need additional authority from the District in the future to withdraw additional limited quantities of water from relatively shallow wells for purposes of obtaining "sealing water" for use in its mining operations.

In accordance with the foregoing, and in consideration of applicable laws and regulations, the Board makes the following

CONCLUSIONS OF LAW:

1. The applicant has established that the intended consumptive use, as described herein,

a. Is a reasonable, beneficial use;

b. Is consistent with the public interest; and

c. Will not interfere with any legal use of water existing at the time of application.

2. The applicant has shown good cause why the Board should grant exception to the provisions of Section 16J-2.11(4)(c), Florida Administrative Code, in connection with pit dewatering operations within approximately 450 feet of the applicant's property boundary. The effect of such pit dewatering operation upon the water table of adjacent lands is temporary and, if not objectionable to the adjacent property owner, consistent with the public interest.

3. The applicant has shown good cause why the Board may grant an exception to the provisions of Section 16J-2.11(4)(a), Florida Administrative Code, in connection with the diversion of water from Brushy Creek. Although the withdrawal will exceed 5% of the rate of flow at the time and point of withdrawal, the Board finds that such withdrawal is consistent with the public interest provided the minimum monthly rates of flow are maintained downstream from the point of diversion.

4. The proposed weir structure within and diversion of water from Brushy Creek is:

(a) a reasonable and beneficial activity; and

(b) not inconsistent with the public interest.

5. The applicant has shown good cause for this Board to grant exceptions to the provisions of Sections 16J-1.06(4)(c) and 16J-1.06(4)(e), Florida Administrative Code. The proposed weir structure and diversion of water from Brushy Creek is not inconsistent with the public interest provided the minimum monthly rates of flow are maintained downstream from the point of diversion.

6. The intended consumptive use is in compliance with the requirements of Chapter 373, Florida Statutes, and Chapter 16J, Florida Administrative Code.

7. In the event the applicant needs additional authority from the District to withdraw additional limited quantities of water from relatively shallow wells for purposes of obtaining "sealing water" for use in its mining operations, applicant must obtain a separate, supplemental consumptive use permit for such withdrawal, pursuant to Chapter 16J-2, Florida Administrative Code, before commencing such withdrawal. Modification of this Order, or the permit authorized hereunder, need not occur for this purpose.

WHEREFORE, UPON CONSIDERATION, it is

ORDERED

1. That the Executive Director of the Southwest Florida Water Management District or a duly delegated member of his staff be, and he is hereby, authorized and directed to issue a consumptive use permit pursuant to the above named applicant in substantially the form and subject to the terms and conditions, set forth in Exhibit "1" attached hereto; and

2. That the Executive Director of the Southwest Florida Water Management District or a duly delegated member of his staff be, and he is hereby, authorized and directed to issue a "work of the District" permit, pursuant to Section 16J-1.051, Florida Administrative Code, to the above

named applicant in substantially the form and subject to the terms and conditions set forth in Exhibit "2", attached hereto.

SOUTHWEST FLORIDA WATER
MANAGEMENT DISTRICT

DATE:

By: Derrill S. McAteer
DERRILL S. McATEER,
CHAIRMAN

ATTEST:

N Brooks Johns
~~THOMAS VAN DER VEER~~
ASST. SECRETARY, N. BROOKS JOHNS

Approved
As To Form
5-3-77
Board Counsel

SEAL

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
(SWFWMD)
CONSUMPTIVE USE PERMIT

PERMIT GRANTED TO:

Mississippi Chemical Corporation
Post Office Box 388
Yazoo City, Mississippi 39194
(Legal Name and Address)

PERMIT NO. 27703567
DATE PERMIT GRANTED: May 4, 1977
DATE PERMIT APPLICATION FILED: February 3, 1977
PERMIT EXPIRES ON: May 23, 1983
SOURCE CLASSIFICATION: Groundwater/surf
USE CLASSIFICATION: Industrial, Irrigatio

TERMS AND CONDITIONS OF THIS PERMIT ARE AS FOLLOWS:

1. That all statements in the application and in supporting data are true and accurate and based upon the best information available, and that all conditions set forth herein will be complied with. If any of the statements in the application and in the supporting data are found to be untrue and inaccurate, or if applicant fails to comply with all of the conditions set forth herein, then this Permit shall automatically become null and void.

2. This Permit is predicated upon the assertion by applicant that the use of water applied for and granted is and continues to be a reasonable beneficial use as defined in Section 379.019(5), Florida Statutes, is and continues to be consistent with the public interest, and will not interfere with any legal use of water existing on the date this Permit is granted.

3. In granting this Permit, SWFWMD has, by regulation, reserved from use by applicant, water in such locations and quantities, for such seasons of the year, as it determines may be required for the protection of fish and wildlife and the public health and safety. Such reservations are subject to periodic review and revision in light of changed conditions.

4. Based upon the application and supporting documents, SWFWMD finds that the applicant's use of water was in existence before January 1, 1975 at the rate of -0- gallons per day

5. Nothing in this Permit should be construed to limit the authority of Southwest Florida Water Management District to declare water shortages and issue orders pursuant to Section 373.175, Florida Statutes, or to formulate a plan for implementation during periods of water shortage pursuant to Section 373.246, Florida Statutes.

6. This Permit authorizes the applicant named above to make a maximum combined average annual withdrawal of 16,981,920 gallons of water per day, with a maximum combined withdrawal rate not to exceed 33,850,500 during a single day. Withdrawals are authorized as shown in the table below.

7. WELL NO. | WITHDRAWAL POINT LATITUDE LONGITUDE | GALLONS PER DAY MAXIMUM | GALLONS PER DA AVERAGE

Well	Avg. Annual	Max. Daily
27 30 27 81 56 8	3394368	5040000
27 30 46 81 55 48	3394368	7200000
27 30 32 81 55 55	3394368	7200000
27 30 14 81 55 36	3394368	7200000
27 29 50 81 55 27	3394368	7200000
27 30 34 81 55 50	10080	10500
SUB-TOTALS	16,981,920	33,850,500
Brushy Creek Storage Basin *	**Avg. Annual**	**Max. Daily**
27 29 37 81 57 35	2543040 *	6471360 *
27 29 37 81 57 35	2543040 *	6471360 *
SUB-TOTALS	5,086,080 *	12,942,720 *
Combined Authorized Totals From Both Types Of Sources:	16,981,920	33,850,500

* During first three years of withdrawal, well production up to max. authorized levels is authorized. Thereafter, withdrawal from Brushy Creek Storage Basin

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6-2-10

will be required when available to reduce well production. See Paragraph No. 15 below. Combined withdrawal from Storage Basin and Production Wells is not to exceed amounts authorized in Paragraph No. 6.

8. The use of said water is restricted to the use classification set forth above. Any change in the use of said water will require a modification of this Permit.

9. In the event an emergency water shortage should be declared, the District may alter, modify or declare to be inactive, all or parts of this Permit. An authorized District Representative may, at any reasonable time, enter the property to inspect the facilities and may require that this Permit be shown.

10. Applicant shall within the time limits hereinafter set forth, complete the following items, and if applicant fails to complete them by the specified date, then this Permit shall automatically become null and void.

11. The permittee shall install propellor type flow meters with mechanically or magnetically driven totalizing registers on the following withdrawal points:

27 30 27 81 56 8
27 30 32 81 55 55
27 30 46 81 55 48
27 30 14 81 55 36
27 29 50 81 55 27
27 29 37 81 57 35
27 29 37 81 57 35

Said meters shall be installed prior to operation of the wells.

12. The permittee shall submit to the District a record of pumpage for each meter installed in No. 11 above. Said pumpage shall be provided on a monthly basis, and submitted for each preceding calendar quarter. Reports will be sent to:

Chief, Technical Information Service
SWFWMD
5060 U. S. 41 South
Brooksville, Florida 33512

13. The permittee shall, within three (3) years of the date withdrawals begin, construct the Brushy Creek Storage Basin and diversion facilities in accordance with conceptual plans on file with the District. Commencing with the fourth (4th) year of mining operations, the permittee shall divert from Brushy Creek such amounts of water as may be required to fill, or attempt to fill, the Brushy Creek Storage Basin to capacity. Simultaneously, permittee shall maintain the average monthly minimum flows of water in Brushy Creek listed in Attachment "A", downstream of the diversion point to the Brushy Creek Storage Basin, except when the flow measured at gaging station SG-3 (see Attachment "B") is less than the minimum flow. In such event no diversion is authorized or permitted.

14. The permittee shall monitor continuously the flow on Brushy Creek at Station SG-1, SG-2, and SG-3, as indicated on Attachment "B". Records of these flows (cfs) will be submitted to District staff by January 15 of each calendar year.

15. Commencing with the fourth (4th) year of mining operations, the permittee shall decrease its well production by withdrawing water from the Brushy Creek Storage Basin, when available. Subject to the maximum withdrawal limits in Paragraph 7, the permittee shall maximize the use of this available surface water by according its withdrawals from the storage basin such priority over its withdrawals of groundwater as is consistent with good water management practices in order to minimize the impact of permittee's operations upon the groundwater resources of the tract and area.

16. Prior to the initiation of withdrawal and continuing throughout the length of the permit, the permittee shall maintain continuous water level recorders on the wells indicated on Attachment "C". Graphical records of the water level fluctuations will be submitted quarterly with the pumpage reports.

17. The permittee shall construct a well for the purpose of monitoring the fresh/mineralized water interface. Construction and location plans for this well will be submitted to the District Staff for review by September 1, 1977.

Construction will not begin until the District Staff has given written approval of the plans and location. Construction is to be completed and monitoring is to have begun before withdrawals authorized herein begin.

18. Water quality analysis shall be performed on samples pumped from the fresh/mineralized water monitor well described in paragraph 17 above, and on samples pumped from the production wells indicated on Attachment "D", on or about the fifteenth (15th) day of each month throughout the term of this permit. Results will be submitted to the District by January 15 each year. Testing for the following constituents is required:

Calcium
Potassium
Chloride
Specific Conductance
Radium 226
Magnesium
Bicarbonate
Nitrate
Gross Alpha Radiation
Sodium
Sulfate
Total Dissolved Solids
Total Phosphate

District Staff may reduce frequency of some or all of the foregoing required tests and may require other types of water quality analysis to be performed where required to provide early indication of any changes in the condition of the water resources in the area.

19. The permittee will investigate the feasibility of recharging water to the Floridan Aquifer within the property boundaries. A report on the results of this study will be submitted to the District by January 1, 1978.

20. Prior to dewatering of mining pits within 450 feet of the property boundaries, the permittee will secure written consent from adjacent property owners for the lowering of the watertable below their lands.

Such written consent will be submitted to the District prior to the opening of mining pits within the specified distance.

21. The permittee will maintain rain gages at the stations indicated on Attachment "B". Monthly rainfall records from these stations will be submitted to the District no later than the fifth day of each month for each preceding month.

22. The permittee will notify the District of the date when groundwater and surface water withdrawals as permitted herewith for mining and benefication purposes will begin. Such notification shall be supplied no later than one week prior to the start of said withdrawals.

23. The permittee will notify the District of the date when withdrawals from the following wells cease:

1. 27 28 11 81 55 56
2. 27 30 47 81 55 43
3. 27 29 56 81 56 46
4. 27 30 33 81 57 6
5. 27 25 26 81 55 7
6. 27 29 41 82 0 47
7. 27 30 41 81 54 24
8. 27 30 37 81 53 42
9. 27 32 26 81 56 46

24. Permittee must obtain a permit pursuant to Section 16J-1.051(1), Florida Administrative Code, before connecting the proposed Brushy Creek Storage Basin to Brushy Creek, and, before diverting or otherwise withdrawing water from Brushy Creek.

6.2-12

25. Permittee must certify, in writing and under oath, that it has achieved ownership or otherwise obtained control of the 14,719 acre tract in Hardee County, (as described in its Application on file with the District) before withdrawals are authorized hereunder.

26. In the event the Board of the District should determine that the minimum monthly rates of flow for Brushy Creek in Attachment "A" are no longer consistent with the public interest, the Board, after notice and opportunity for hearing, may make such adjustment in the required rates of flow as may then be necessary to be consistent with the public interest.

27. The amounts authorized to be withdrawn, as specified in paragraphs 6 and 7 above, are the total amounts authorized to be withdrawn from the tract of land (14,719 acres) described in permittee's Application including specifically the amounts heretofore authorized to be withdrawn as "existing uses" for:

(a) Donald & Susan Smith - Permit No. 27703508
(b) Doyle E. Carlton, III - Permit Nos. 27703518, 27703519, 27703520
(c) Jane Carlton - Permit No. 27703521

Issuance of this permit was conditioned upon receipt of the letter agreement between permittee and said "existing users", dated April 12, 1977.

All questions of priority between "new" and "existing" users are specifically left to the parties concerned.

This permit is not intended to, and shall not be interpreted as an attempt to, divest or otherwise impair or infringe upon the rights of said "existing users". Rather, it is to be regarded as the District's consent and authorization to both "existing" and "new" users to proceed as the District perceives both parties with to proceed.

Daniel N Gomberg
Authorized Signature, SWFWMD

Permittee hereby certifies that it will own, lease, or otherwise control the property covered by this application prior to commencing withdrawals, that the information contained in this application is true and accurate and, if permittee is a corporation or a partnership, that the undersigned has the legal authority to execute this application and affidavit on behalf of said corporation or partnership.

____
Signature of Applicant

Sworn to and subscribed before me
this _____ day of ___________, 1977.

____
Notary Public

My Commission Expires:

Approved
As To Form
5-3-77
Board Counsel

BB

6-2-13

BRUSHY CREEK AVERAGE MONTHLY MINIMUM FLOWS

MONTH	MINIMUM (CFS) RATE of FLOW
OCTOBER	2.5
NOVEMBER	0.22
DECEMBER	0.21
JANUARY	0.20
FEBRUARY	0.45
March	0.19
APRIL	0.014
MAY	0.002
JUNE	0.48
JULY	5.58
AUGUST	16.4
SEPTEMBER	15.0

Attachment A

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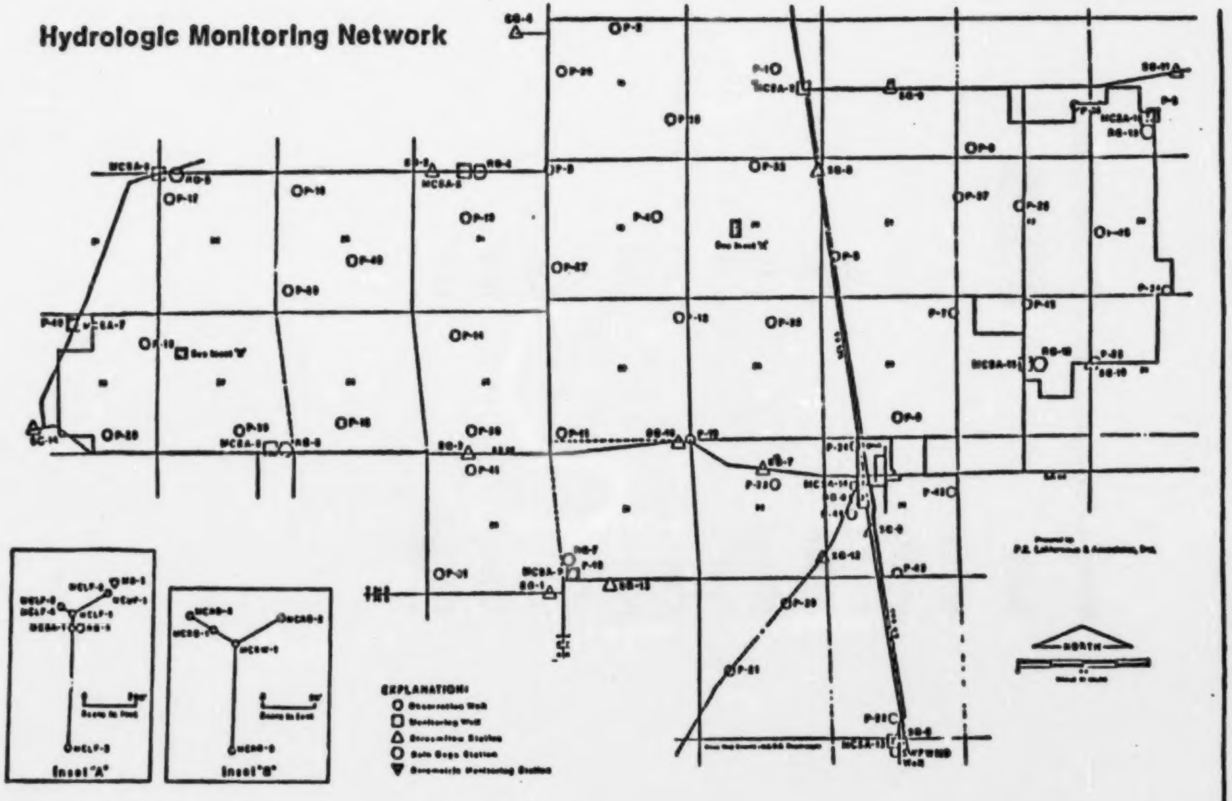
best available copy.

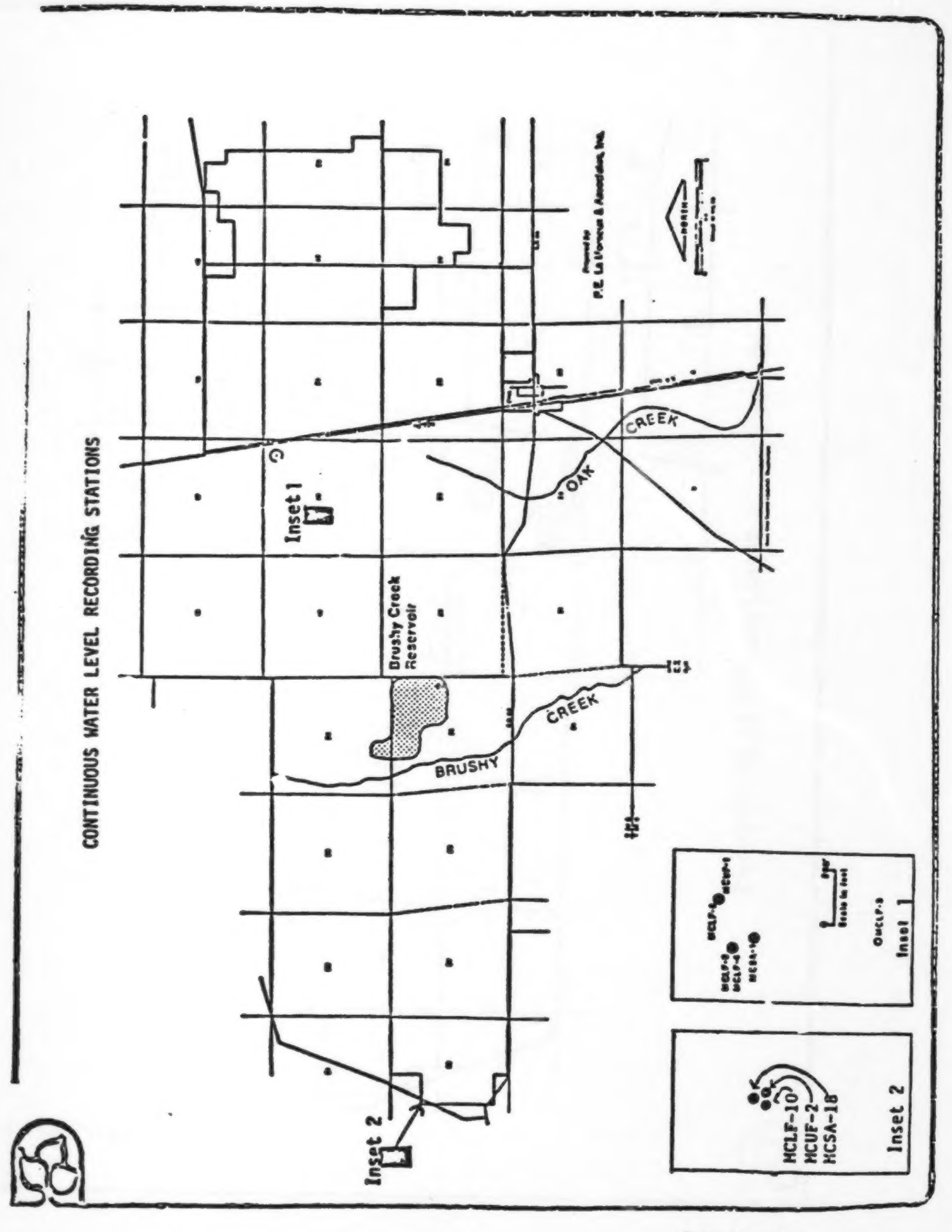
Hydrologic Monitoring Network


SG-4
P-2
P-1
MCSA-3
SG-3
SG-11
P-8
P-33
SG-8
P-40
See Inset "A"
P-27
P-9
P-7
P-41
P-12
P-20
P-28
P-30
P-31
P-21
P-23
MCSA-1
SG-1
SG-7
SG-12
SG-14
P-10
See Inset "B"
MCSA-2
MCSA-11
Inset "A"
MCLP-1
MCLP-2
MCLP-3
MCLP-4
MCLP-5
RG-1
Scale in Feet
Inset "B"
MCRW-1
Scale in Feet
EXPLANATION:
Observation Well
Monitoring Well
Streamflow Station
Rain Gage Station
Barometric Monitoring Station
Prepared by
P.E. LaMoreaux & Associates, Inc.
NORTH

Mississippi Chemical Corporation

Attachment B

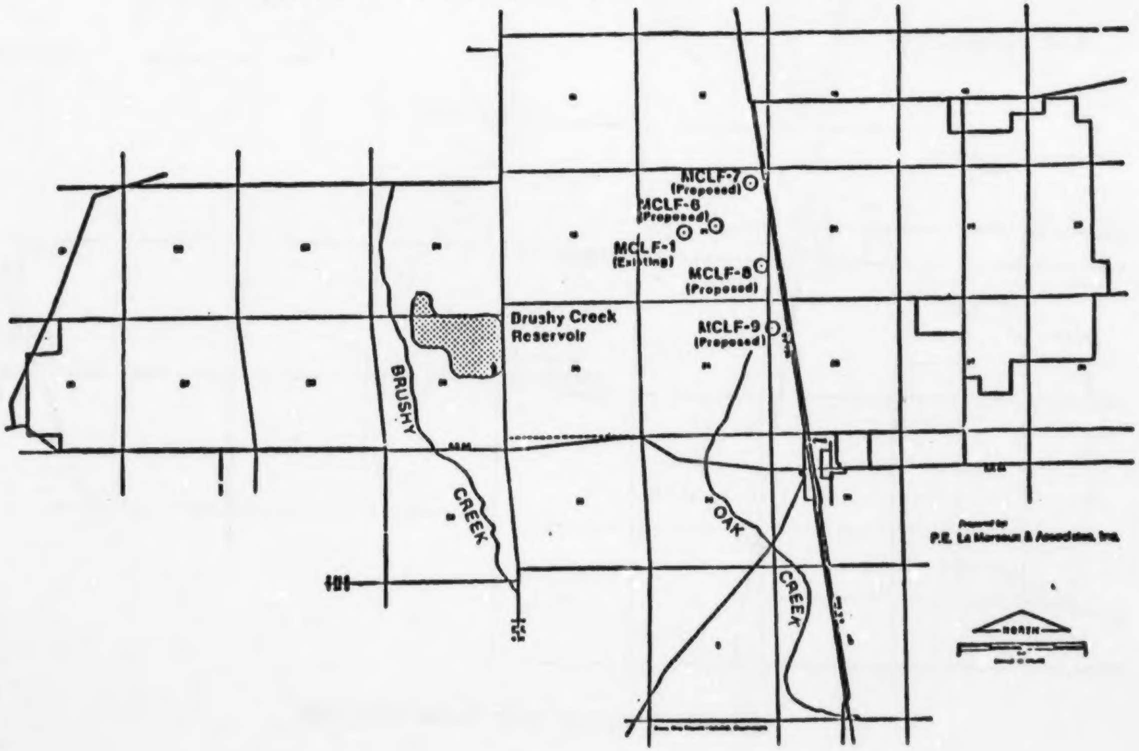
6-2-15


CONTINUOUS WATER LEVEL RECORDING STATIONS
Inset 1
Inset 2
Brushy Creek Reservoir
BRUSHY CREEK
OAK CREEK
MCLF-10
MCUF-2
MCSA-18
Inset 1
Inset 2

Attachment c

6-2-16

Location of Proposed Points of Withdrawal


MCLF-7 (Proposed)
MCLF-6 (Proposed)
MCLF-1 (Existing)
MCLF-8 (Proposed)
MCLF-9 (Proposed)
Brushy Creek Reservoir
BRUSHY CREEK
OAK CREEK
NORTH

Prepared by
P.E. LaMoreaux & Associates, Inc.

Attachment D

6-2-17

NO CARBON REQUIRED

APPLICATION FOR PERMIT

Number ....

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

5060 US Highway 41 South
Brooksville, Florida 33512

(Please Type Or Print In Ink)

1. Description of construction or use: [illegible]

2. Location:

County: [illegible] Section: [illegible] Township: [illegible] Range: [illegible]

Block: -- Lot: -- Subdivision: --

3. "Works of the District" (Body of Water) involved (Section 16 J-1 (1.03) [illegible]

4. Name of applicant: [illegible] Phone [illegible]

Street or P.O. Box: [illegible]

City [illegible] State [illegible] Zip [illegible]

5. Name of owner if other than applicant: .... Phone ....

Street or P.O. Box: ....

City .... State .... Zip ....

If applicant is not the owner, a letter dated and signed by owner authorizing the applicant to act for him must accompany this application.

6. Area (acre) proposed to be served: (If application is for drainage or irrigation connection, list the acreages involved.) [illegible]

7. How soon after receipt of the permit will work commence? [illegible] days. When will work be completed? [illegible] (If not completed by this date and no extension of time is applied for and granted, this permit is voided.)

8. In the event that the requirements or interests of the Southwest Florida Water Management District indicate that the removal or alteration of any structure or works installed by the permittee is necessary, or if the structure becomes in an unsafe condition, the structure or works must be removed or altered within 60 days of notice and at no cost to the District. Should the permittee fail or refuse to alter, or remove the structure when so notified, the SWFWMD may alter, repair or remove the structure or work and the costs incidental thereto must be paid by the permittee.

9. Any erosion to or shoaling in a "Work of the District" caused by the permittee's construction shall be removed or repaired promptly by the permittee at no expense to the District.

10. This application including sketches, drawing or plans and specifications attached contains a full and complete description of the work proposed or use desired of the above described facilities of the District and for which permit is herewith applied. It shall be a part of any permit that may be issued.

11. This application is subject to all stipulations which may appear on the approving transmittal letter.

Submitted this [illegible] day of [illegible], 19[illegible]

....
Signature of Applicant

Regulatory Division Approved (Initials) , (Date) 5-4-77

Notary Public

Maintenance Division Approved .... , ...

Final Construction Completed .... , ...

My Commission Expires Feb. 25, 19[illegible]

Applicant keeps second Copy and sends White forward

Revised: 3/78

Reproduced from best available copy.

6-2-18

6.3 CORRESPONDENCE WITH ADVISORY COUNCIL ON HISTORIC PRESERVATION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

December 2, 1981

Mr. Jordan E. Tannebaum, Chief
Eastern Division of Project Review
Advisory Council on Historic Preservation
1522 K Street, N.W.
Washington, D.C. 20005

RE: Mississippi Chemical Corporation (MCC)
Hardee County Phosphate Mine

Dear Mr. Tannebaum:

On 21 September 1981 EPA received a letter dated 18 September 1981 (copy attached) from the Council concerning EPA's determination (in consultation with the Florida SHPO) on archaeological site 8 Hr 5 (aboriginal site 1) locating on MCC's proposed mine tract in Hardee County, Florida. The site is eligible for the National Register of Historic Places. EPA and the Florida SHPO's determination was no adverse impact based on conditioning the NPDES permit for archaeological data recovery prior to disturbing the site.

As expressed in the NEPA related NPDES condition (#3) on page III-1 of the draft NPDES permit appended to the Draft EIS, consultations identified in 36 CFR 800 relative to significant onsite archaeological sites shall be undertaken prior to commencement of mining related activities. Any excavations were to be approved and conducted under the guidance of the SHPO.

While EPA has no problems with agreeing to having the MCC excavation plan also approved by the Council and to the condition contained in the Council's letter, a few points must be clarified. First, a data recovery plan will be prepared by MCC and not EPA. Second, excavation of the aboriginal site is planned several years into the mining operation (i.e. - work on the MCC tract has begun, but prior to mining the area of the aboriginal site itself). Lastly, EPA cannot accept or approve such a plan since we do not have expertise in this area. EPA will rely on the expertise of the Florida SHPO for acceptance of the excavation plan.

6.3-1

Therefore, we have modified the proposed NPDES permit condition to read as follows:

> A data recovery plan, including a detailed research design, for archaeological investigations at archaeological site 8 Hr 5 will be submitted to the Florida SHPO and the Council by August 1982 for review and approval prior to implementation and prior to commencement of mining related activities. If neither the SHPO nor the Council object within 15 days after receipt, the plan will be considered approved and implementable subject to being conducted under guidance of the SHPO. If either party objects, the SHPO, the Council, MCC, and EPA (as appropriate) will consult to resolve the objections.

We appreciate the assistance of the Advisory Council in reviewing this aspect of the project and in establishing appropriate archaeological control measures. If you have any concerns or questions with the above proposed language, please contact Dario Dal Santo of the EIS staff at FTS/257-7458.

Sincerely yours,

John E. Hagan III

John E. Hagan III, P.E.
Acting Chief, Environmental Assessment Branch

cc: Mr. George Percy
Florida Deputy State Historic Preservation Officer

6.3-3

Advisory Council On Historic Preservation

1522 K Street, NW
Washington, DC 20005

RECEIVED
SEP 28 1981
CULTURAL RESOURCE
MANAGEMENT TEAM

RECEIVED
SEP 21 1981
DIVISION OF [illegible]
History & [illegible]
Management

September 18, 1981

Ms. Rebecca W. Hanmer
Regional Administrator, Region IV
U.S. Environmental Protection Agency
345 Courtland Street
Atlanta, GA 30365

Dear Ms. Hanmer:

On September 8, 1981, the Council received a letter and supporting draft environmental impact statement from Mr. Robert B. Howard, Chief, EIS Preparation Section, concerning issuance of a National Pollutant Discharge Elimination System (NPDES) permit for a proposed phosphate mine in Hardee County, Florida. It is our understanding that EPA, in consultation with the Florida State Historic Preservation Officer (SHPO), has determined that issuance of the permit will have no adverse effect on Archeological site 8Hr5 (Aboriginal Site #1), a property eligible for the National Register of Historic Places. This determination is based on EPA's intention to condition the permit on archeological data recovery at the site prior to mining or other land-disturbing activities.

Under the Council's regulations (36 CFR Part 800), the Executive Director will not object to your determination of no adverse effect if you will agree to the following condition:

> A data recovery plan, including a detailed research design, for archeological investigations at archeological site 8Hr5 will be submitted to the Florida SHPO and the Council for review prior to implementation. If neither the SHPO nor the Council objects within 15 days after receipt, EPA will ensure that the proposed data recovery plan is implemented prior to mining or other land-disturbing activities. If either party objects, EPA will consult with the SHPO, the Council, and the Mississippi Chemical Corporation in order to resolve the objections.

If you agree to this condition, please sign on the concurrence line below and return this letter to us. This will then be incorporated into your determination, and the Executive Director will concur in your determination of no adverse effect.

6.3-4

In accordance with Section 800.8 of the Council's regulations, a copy of your determination of no adverse effect, along with supporting documentation and this conditional concurrence, should be included in the final environmental impact statement prepared for this undertaking in compliance with the National Environmental Policy Act. Is should also be included in your records as evidence of your compliance with Section 106 of the National Historic Preservation Act and the Council's regulations.

Thank you for your cooperation. If you have any questions, please contact Ronald Anzalone, our Staff Archeologist, at FTS 254-3495.

Sincerely,

Jordan E. Tannenbaum

Jordan E. Tannenbaum
Chief, Eastern Division of
Project Review

I concur:

(date)
U.S. Environmental Protection Agency, Region IV

6.3-5

Advisory Council On Historic Preservation

1522 K Street, NW
Washington, DC 20005

December 15, 1981

Mr. John E. Hagan, III, P.E.
Acting Chief
Environmental Assessment Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street
Atlanta, GA 30365

Dear Mr. Hagan:

Thank you for your letter of December 2, 1981, concerning our response to your determination of no adverse effect for archeological site 8 Hr 5, which will be affected by mining at the Hardee County Phosphate Mine, Florida. We appreciate EPA's constraints under the NPDES permitting process, and we have no objection to your modification of the NPDES permit condition.

As usual, please retain this letter and supporting documentation in your compliance records for the National Environmental Policy Act, Section 106 of the National Historic Preservation Act, and the Council's regulations (36 CFR Part 800).

Thank you for your cooperation. If you have questions, or need further assistance, please contact Ronald Anzalone, our staff archeologist, at FTS 254-3974.

Sincerely,

Jordan E. Tannenbaum

Jordan E. Tannenbaum
Chief, Eastern Division
of Project Review

ENVIRONMENTAL IMPACT STATEMENT BRANCH
RECEIVED
DEC 17 1981
REGION IV - EPA